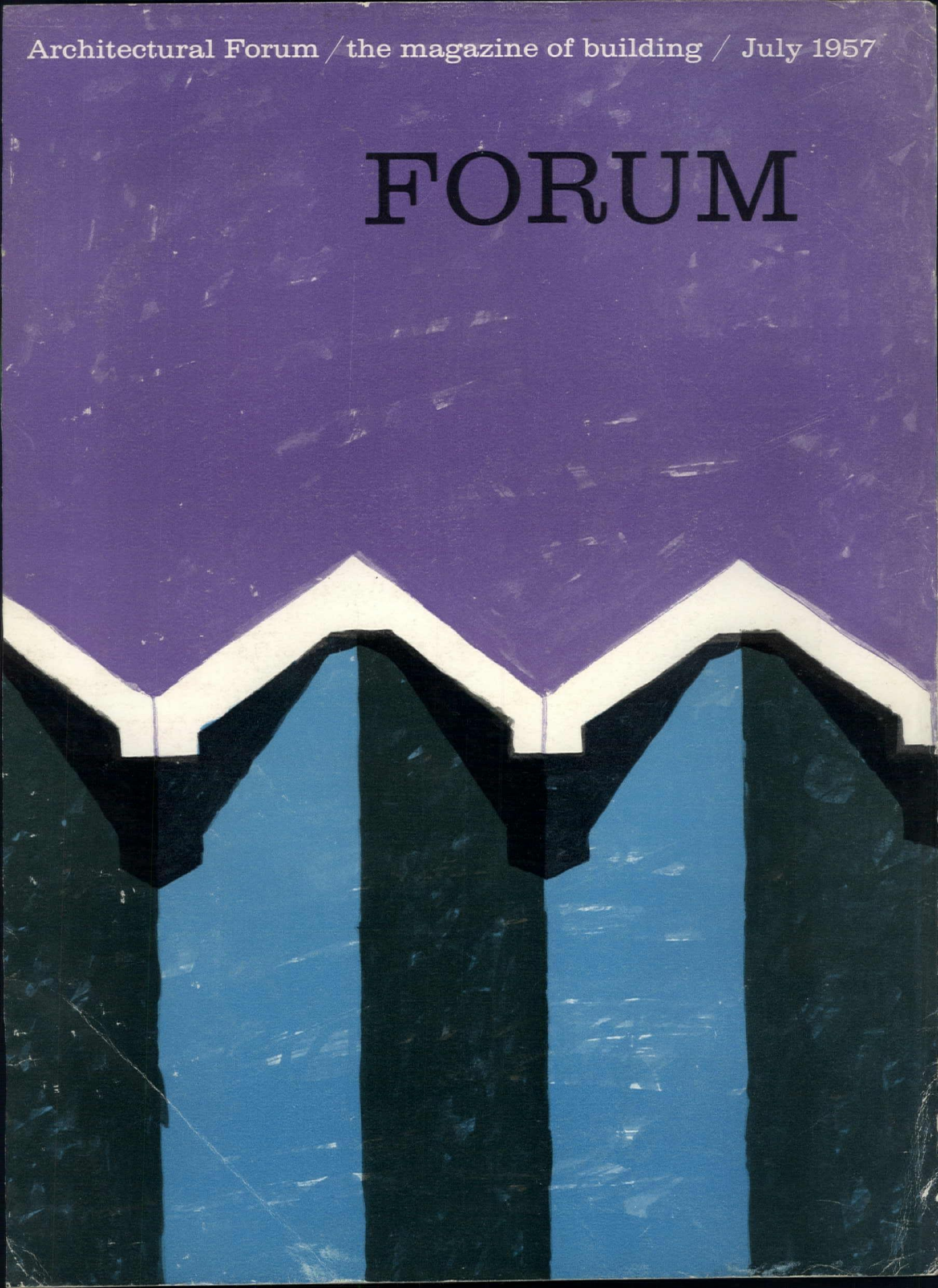
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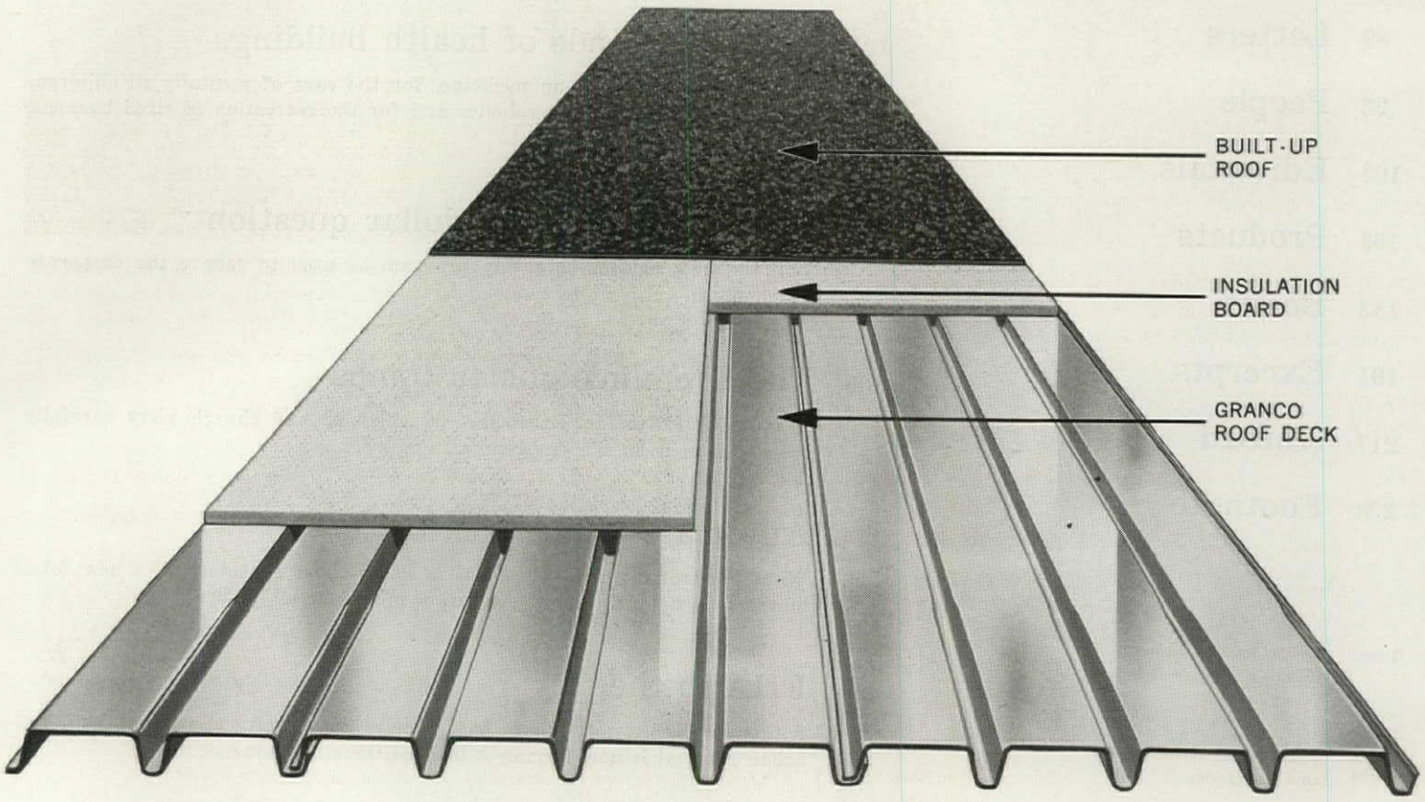
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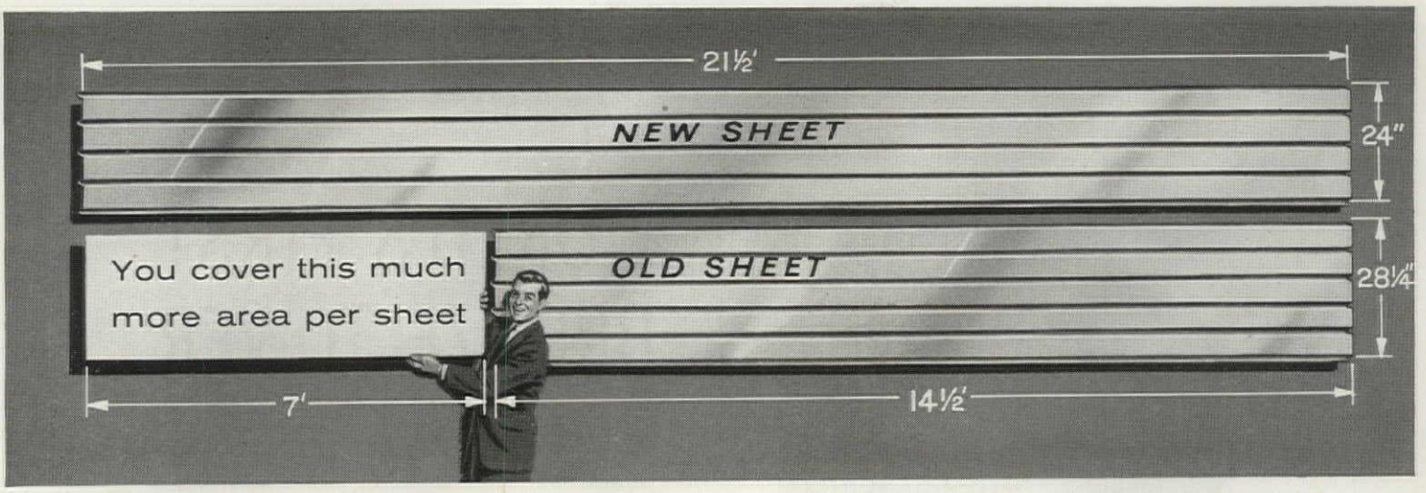
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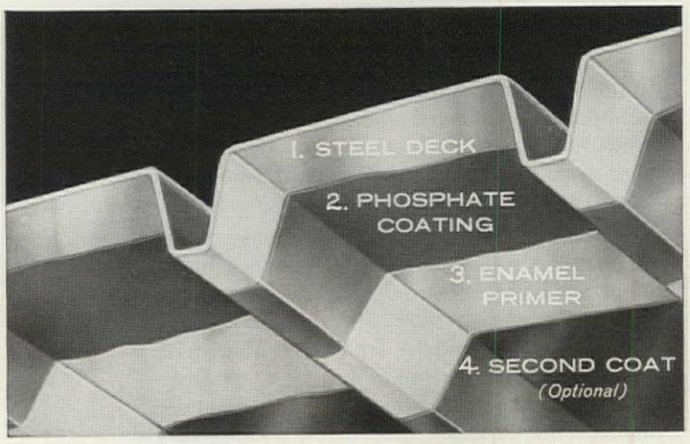
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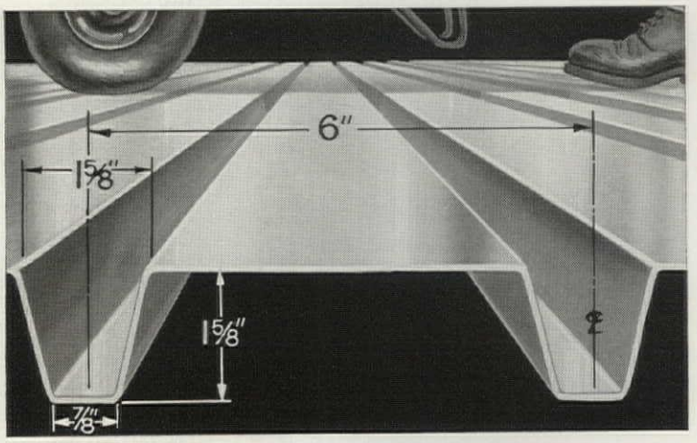
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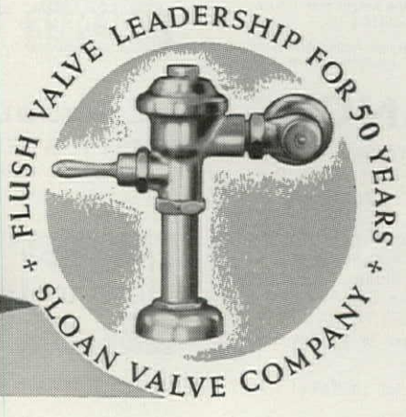
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Senate-House conference works on housing bill; urban renewal assured $250 million next year

As the Housing Act of 1957 moved into joint Senate-House conference it became obvious that it would be a much broader measure than had been anticipated some months ago. Rather than concocting a string of minor amendments, both Houses of Congress have conceived some significant revisions in housing legislation and many of them will stand in the final bill.

Here is the way major sections of the bill shape up prior to conference:

Urban renewal. The Senate Banking Committee had approved $250 million a year for four years in urban renewal capital grants, but the full Senate, under the lash of budget cutters led by Sen. Bricker (R, Ohio), trimmed that back to $250 million a year for two years. (The House bill called for $250 million but for only one year.) So urban renewal grant funds will be swelled by at least $250 million for the next year, and maybe for two more years.

Public housing. Sen. Morse (D, Ore.) attempted to push through an amendment that would have called for 200,000 units a year for two years but it was killed by a 54-to-20 vote. However, the Senate went much further than the House in liberalizing tenant requirements. For instance, the Senate approved amendments that would let overincome families continue occupancy if the local housing agency determines that there is not an adequate supply of decent, safe and sanitary dwellings available in the community. Also, rules governing supplemental income were greatly liberalized. The Senate upped limits on construction costs, too, from $1,700 per room to $2,000 for regular units, and from $2,250 to $2,500 per room for units designed specially for the elderly. Just as significant as what was passed by the Senate was what was left out—specifically, the Administration's workable program requirement for public housing.

College housing. Another Administration defeat came when the Senate voted down Sen. Bush's amendment for a new formula for interest rates on dormitory loans. Bush had wanted to exclude securities with a maturity of less than 15 years (usually with lower interest rates than longer-term securities) from the formula, which fixes the rate on college loans by taking an average of all rates on outstanding Treasury obligations. Under the Bush plan, interest would be about 3½% on such loans, instead of the current 2⅞%. The House too wants a higher rate—it will get a slightly higher one anyway when the annual fix in the rate is made this month—but the Senate conferees headed by Sen. Fulbright are likely to press for lowest possible college loan rates.

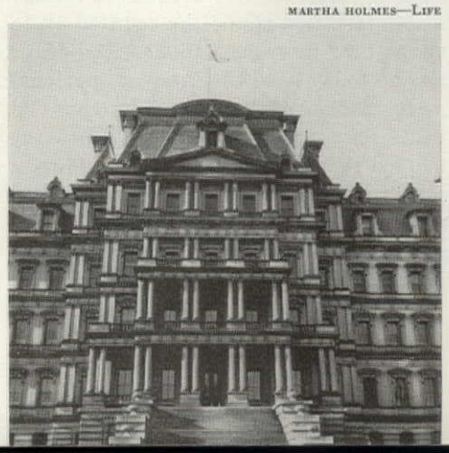
Fanny Mae took a $1¼ billion trimming in the Senate, particularly in proposed—and requested—increases for borrowing authority for its secondary market operations. The proposed increase of $750 million in Treasury backing for new borrowing authority for this purpose was trimmed to $350 million by Sen. Bricker's amendment. Money for direct purchase of cooperative housing by Fanny Mae was cut back from $250 million to $100 million, and Fanny Mae funds for direct aid to Section 221 (relocation) housing was trimmed from $250 million to $75 million.

WASHINGTON

White House office study puts Old State on spot

Back in 1875, President U. S. Grant was touring the newly opened first section of the State, War and Navy building (below) in Washington. After a stroll through the broad, gloomy corridors of granite and marble, a guide

MARTHA HOLMES—LIFE



showed Grant to the door, remarking: "One more thing, Mr. President, the building is fireproof." Grant, so the legend goes, peered glumly at the massive pile of columns above him, and replied: "What a pity."

From its inception, Old State has been the focus of some debate. Now, a presidential commission bent on finding more office space for the Chief Executive has taken a look at Old State and decided if it won't burn down, it should be torn down.

The commission, headed by Washington Banker Robert V. Fleming and New Haven Architect Douglas W. Orr, studied the problem of what it calls the "outmoded, overcrowded, inefficient" present offices of the President, and mulled over seven basic plans to solve it. The best, they decided, was one that calls for razing Old State, which the commission cited for its "incongruous size and appearance, its general obsolescence, its inefficient interior arrangement and inadaptability to modernization." They would then build a new office on its site, just west of the White House.

The plan would cost $32.3 million, but would have numerous advantages, says the commission. Chief advantage is that 150,000 sq. ft. of badly needed office space would be added to present space. (The 150,000 sq. ft. includes some space in the planned GSA building on Jackson Pl. but that project has been shelved by economy minded Congressmen at least until next year.) Another is that it would expand the White House grounds all the way to 17th St., as the present West Executive Ave. would be closed.

Though the commission report was undertaking something desired by Chief Executives since Teddy Roosevelt—to divorce the residential aspects of the White House from its business aspect—there were city planning and architectural factors it had apparently not coped with. Architects had had a change of mind about Old State since Grant's time, and AIA's centennial gold medalist Ralph Walker was now calling it a "pleasant monstrosity." Others said sharply that today's Public Buildings Administration cannot be counted on to do better; moreover no new buildings put up today have the interior spaciousness, graciousness and amenity that Old State has: it would cost ten times the money. Why, they asked, tear down a serious solid building while leaving endless wretched temporaries standing, and how justify the step when nobody possesses any real comprehensive plan for the entire Lafayette Square area?

Old State has a whole platoon of admirers, too, in the House, led by Speaker Sam Rayburn (D, Tex.).

How much support Old State might muster in Congress is pretty academic, at least for this year. Even if President Eisenhower asks Congress to rush through legislation for a new office building along the lines of the commission report, it is doubtful if it would get far in this session.

EDUCATION

Yale gets new dean, new chairman, new rating



RUDOLPH



DANES

Some small gray clouds that had cast their shadows over two venerable Ivy League institutions have lifted. Those "provisional" ratings that the National Architectural Accrediting Board tagged on the recently revamped curricula of Yale and Harvard (AF, Jan. '57) have been removed. Thomas K. FitzPatrick, newly elected president of the board, says that both schools appear on the July listing "without reservations or provisions of any kind."

Yale last month announced the appointment of Prof. Gibson A. Danes as Dean of the School of Architecture and Design and Paul Rudolph as chairman of the department of architecture. Both appointments are effective next February. Chairman of the department of art at UCLA since 1952, Prof. Danes, 46, received a Ph.D. in the history of art from Yale. Boyd M. Smith, Yale's former Dean, is retiring after serving on the faculty since 1927.

Paul Rudolph, 38, is a graduate of Alabama Polytechnic Institute and holds a master's degree in architecture from Harvard. Designer of many outstanding buildings, including Wellesley's Art Center, he has been visiting critic at several universities.

HOSPITAL BUILDING

Cracks in hospital walls set off an investigation

An uninspiring-looking addition to the Philadelphia General Hospital building complex has become a storm center in the City of Brotherly Love. Just finished three years ago, the hospital's new $3.4 million food service building is already showing more than normal signs of wear, specifically: huge cracks have appeared in the brick facing, windows and lights have cracked, the basement is usually flooded with water because of poor drainage, the roof leaks.

The condition of the building has fired off a special grand jury investigation, which, in its own words, suspects a "strong possibility that the city has been cheated." Other observers aren't so sure, but at least the building has become much more of a conversation piece than anyone originally thought. Meanwhile, the City Council has voted $70,000 to repair the building.

The food service building was designed by Eugene A. Stopper, veteran Philadelphia architect who had done many industrial and institutional buildings prior to his death in 1951. But his design for the hospital building became a political matter with the change in city administrations in 1951. Democrats said the building was "overdesigned" and called it "a doctor's palace." The five-story building, with brick, glass and aluminum exterior, was partially redesigned but Stopper's basic concept was unaltered.

Even before the scaffolding was removed from the building, it became obvious something was wrong—cracks had already appeared in the facing, and some interior walls had cracked. The new city architect, George I. Lovatt, inspected the building and had an independent survey made by local Engineers Schulcz & Padlasky. Both arrived at pretty much the same conclusions: the cracks did not affect the structural integrity of the building, and they resulted mainly from the fact that Stopper had designed expansion joints for only the top floor.

Already, some of Stopper's Philadelphia colleagues have said that he was not necessarily wrong in leaving out expansion joints on every floor—five years or so ago, they say, many architects were still in disagreement over the

need for expansion joints.

But the grand jury would like to know who was responsible for going ahead with the original design even after it became obvious that more expansion joints would be needed for this building. The builder had requested additional joints be added, and supervising architects had concurred with his opinion. But city officials—and this is where the underbrush becomes thick indeed—refused to okay the extra work. Just who these recalcitrants were is going to be difficult to pin down. For one thing, there has been a complete turnover of high echelon Public Health officials, including Owen B. Stubben, who had charge of institutions at the time the new building was going up and who is now in the Philippines. For another, a new city charter scrambled traditional working relationships between the city architect and various departments so that lines of authority are no longer clear in the case of the new building.

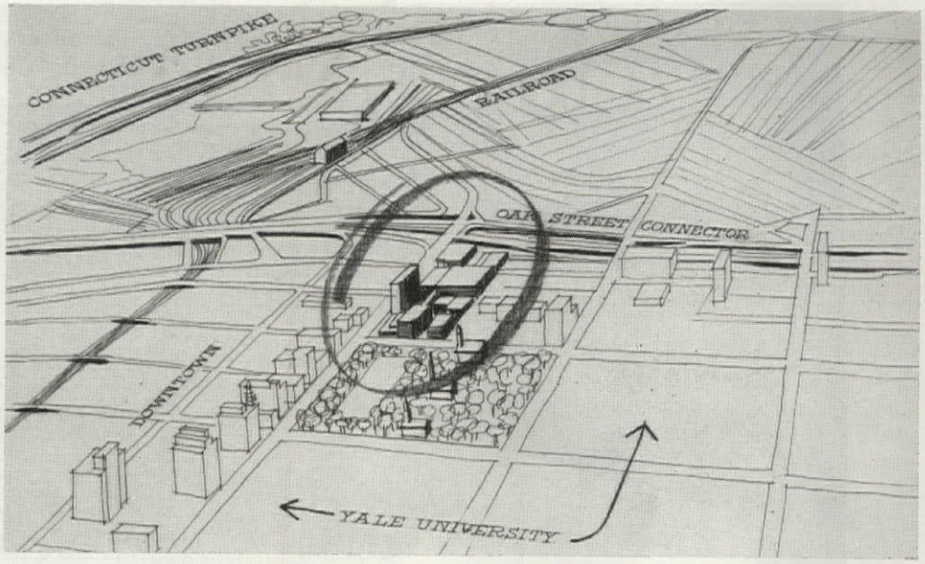
Tranquilizers may upset mental hospital design

Tranquilizers have taken the country by storm. They have revolutionized sports—at least one baseball player had a brief spurt of fabulous hitting after taking the drugs—and sedated the nerves of citizens from Cucamonga to Kennebunkport. Now they have struck a provocative blow at institutional architecture.

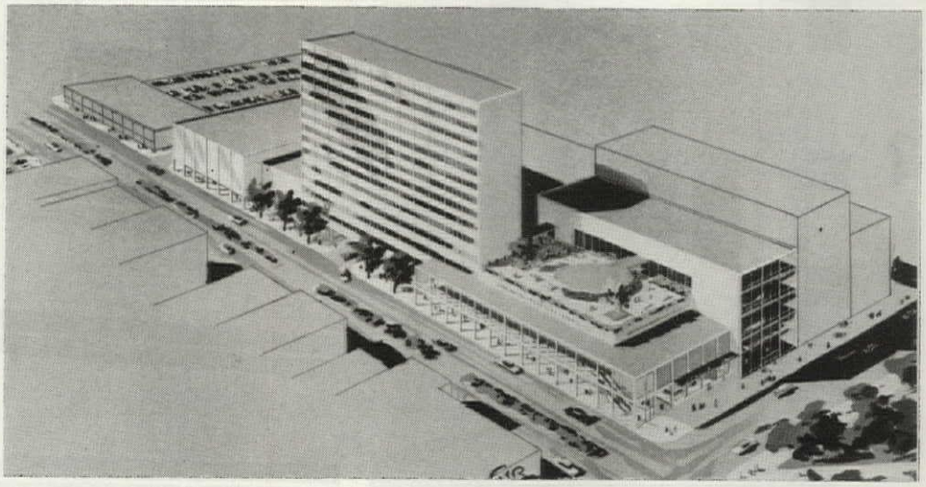
Latest note of the effect of tranquilizers on design comes from California. The state legislature's assembly committee on public health reports that tranquilizing drugs have started a trend away from the "maximum security type of facility and toward the 'normal' hospital facility." This will mean greater need for activity rooms, more recreational and occupational therapy rooms and more outpatient and day care facilities.

The report suggests that the future mental hospital "will very likely be composed of small units of several hundred patients and the entire structure will change, with most of the patient load going to outpatient clinics."

The report winds up by recommending that "major expenditures be postponed" until the full effect of tranquilizers on design is evaluated.



NEW HAVEN'S CHURCH ST. redevelopment project will nestle between the old village green and the new Oak St. connector, still under construction. Over-all plan is by Maurice Rotival & Assoc., City Plan Commission and Redevelopment Agency. New 18-story hotel-office building (below), shopping center and parking garage were designed by John Graham.



New Haven's Church St. Project will give city a revitalized $85 million heart

Having already broken ground on their first large-scale urban redevelopment project on the outer rim of its downtown area, New Haven officials last month announced an even more ambitious project that would, in effect, give the city a new heart.

The new redevelopment area, called the Church St. project, will cover 96 acres, bordering right on New Haven's landmark "green" around which the city has grown. Says Mayor Richard C. Lee: "We realized that we must save the center, if the city is to be worth saving at all."

Saving the center will be expensive —$85 million—and take about five years, but New Haven has already tasted the heady effects of urban renewal with its Oak St. project, and is convinced the expense is more than merited. The new project will provide the city with a badly needed 300-room hotel (13 floors of an 18-floor structure, the other five to be office space) and will double the parking space downtown. There will be 200 new apartments and a shopping center with a rooftop restaurant seating 250.

Around this revitalized core, New Haven plans to build other new complexes. A new commercial park, covering 19 acres, is to supplement the central business district. On the Oak St. project, a new Southern New Eng-

continued on p. 9

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land Tel. & Tel. building is going up, and 700 new apartments are underway. The Oak St. connector, under construction, is designed to provide quick access to the downtown area. A new wholesale produce market will be built on New Haven's harbor front.

Church St. itself, as well as other streets bounding downtown, will be widened and extended to the New Haven railroad station.

Cost of the Church St. project will be divided roughly in half by the federal government and local public agencies and by private sponsors. Federal funds totaling $39 million ($13 million in grants, $26 million in loans) will pay the biggest single chunk. The New Haven Parking Authority will pay $7.4 million for the ramp garage and parking facilities. The city itself will pay $3.4 million, with $2.9 million in the form of capital improvements, the rest in cash. (The city share will be raised by sale of 20-year general obligation bonds.)

Biggest chunk of private money will come from developer Roger Stevens, who will sink at least $18 million into the hotel, shopping areas and adjacent grounds. Another $14 million in private capital will bring the total to around $85 million, more than twice the cost of Oak St.

Mayor Lee figures that, aside from the nonfiscal benefits of a new city core, tax income from the redeveloped area will go up $580,000 a year to $980,000, and that this tax increment plus parking revenues will more than handle debt service. Thus, the city shouldn't have to boost taxes at all to pay for the new project.

New Haven's Board of Aldermen still have to approve the Church St. plan, and then apply for a loan and grant contract to the Urban Renewal Administration. But Lee is confident of this, and hopes to start property acquisitions by winter.

PUBLIC HOUSING

National Housing Conference calls for new federal program, hits today's policies; Cole hits back

A clarion call for a whole new housing policy for federal government was sounded at the 26th annual meeting of the National Housing Conference in Washington last month.

The meeting was highlighted by some dramatic proposals for new approaches to the nation's housing problem and by some unexpected off-the-cuff remarks by HHFAdministrator Albert M. Cole. After Executive Vice President Lee F. Johnson had led off by calling for 200,000 units of public housing a year (just what the Senate turned down a few weeks ago), retiring Chairman Ira S. Robbins decried "red tape and bedevilment by Washington agencies" and said, "There is no continuity to the program." Then the conference passed resolutions calling for a new housing program and added that heads of the federal housing agencies must "be held fully responsible for maladministration of the existing programs."

Before his scheduled speech, Cole decided to do some criticizing of his own. "Are you really interested in finding answers to our housing problems?" he asked, or in just passing "resolutions of a political nature."

Cole then swung at the NHC's liberal breadbasket. "I am not sure whether the National Housing Conference is not becoming more reactionary. It seems that the NHC is thoroughly satisfied that the programs developed long ago are still good enough and they don't want any change."

NHC's reply came in the form of a rash of new resolutions and suggestions for everything from public housing and urban renewal to a new scheme of federally-backed second mortgages to replace the present federal mortgage system. The NHC cited many of the troubles with the present programs, and laid responsibility for the current decline in public and private homebuilding to inflation, lack of a coordinated federal program, and difficulties between federal and local agencies. But Sen. Jacob K. Javits (R, N. Y.) threw a wet blanket on the proceedings by dealing out some political facts of life: "The practical situation in Congress makes impossible new broad-scale programs required to deal with the situation. The federal government programs have gone about as far as they are likely to go in the immediate future in the homebuilding field with the probable normal expansion of existing programs."

RENTAL HOUSING

FHA takes over rental projects for poor upkeep

For the first time in its 23-year history, FHA has taken over insured rental properties because of poor property maintenance. The new departure in FHA rental policy occurred in Houston, Tex., where FHA, exercising its rights as preferred stockholder, ousted the owners of three contiguous rental projects housing 390 Negro families in northwest Houston.

Norman Mason, FHA commissioner, noted that the apartments had enjoyed high occupancy in recent years, but that "the sole beneficiaries of the prosperity have been the stockholders, not the project. Too few of the proceeds from rental income . . . have been put into reserve funds to meet the needs of leaner times."

Under the FHA charter, the agency has the right to oust the management for "serious charter violations impairing the value of the property" but this was the first time that shoddy maintenance had been cited for such action. FHA believes that earnings were adequate to cover dividends and still allow for maintenance, but that the earnings had been used for neither maintenance nor building adequate reserves. The properties will be managed by FHA Houston Director Keith McCanse, John A. Lewis, supervisory real estate officer, and H. R. LeMay, principal stockholder in the three projects. McCanse says: "Our big problem will be to find sufficient money to meet current obligations and at the same time carry out a much-needed rehabilitation program." He added that he was hopeful that liquidation of certain "extraneous assets such as loans to stockholders and a 1956 Cadillac" will help realize the needed rehabilitation funds.

FHA says that the Houston takeovers may have been the first but they won't be the last. "We plan a number of takeovers in the East," says an FHA official, who adds that in several eastern projects, the evidence of shoddy maintenance despite high earnings is even more flagrant than it was in Houston. FHA will manage the projects until they are in adequate condition, then return them to the owners. They cannot foreclose the mortgage for poor maintenance, but can operate the properties—and control earnings.

continued on p. 12

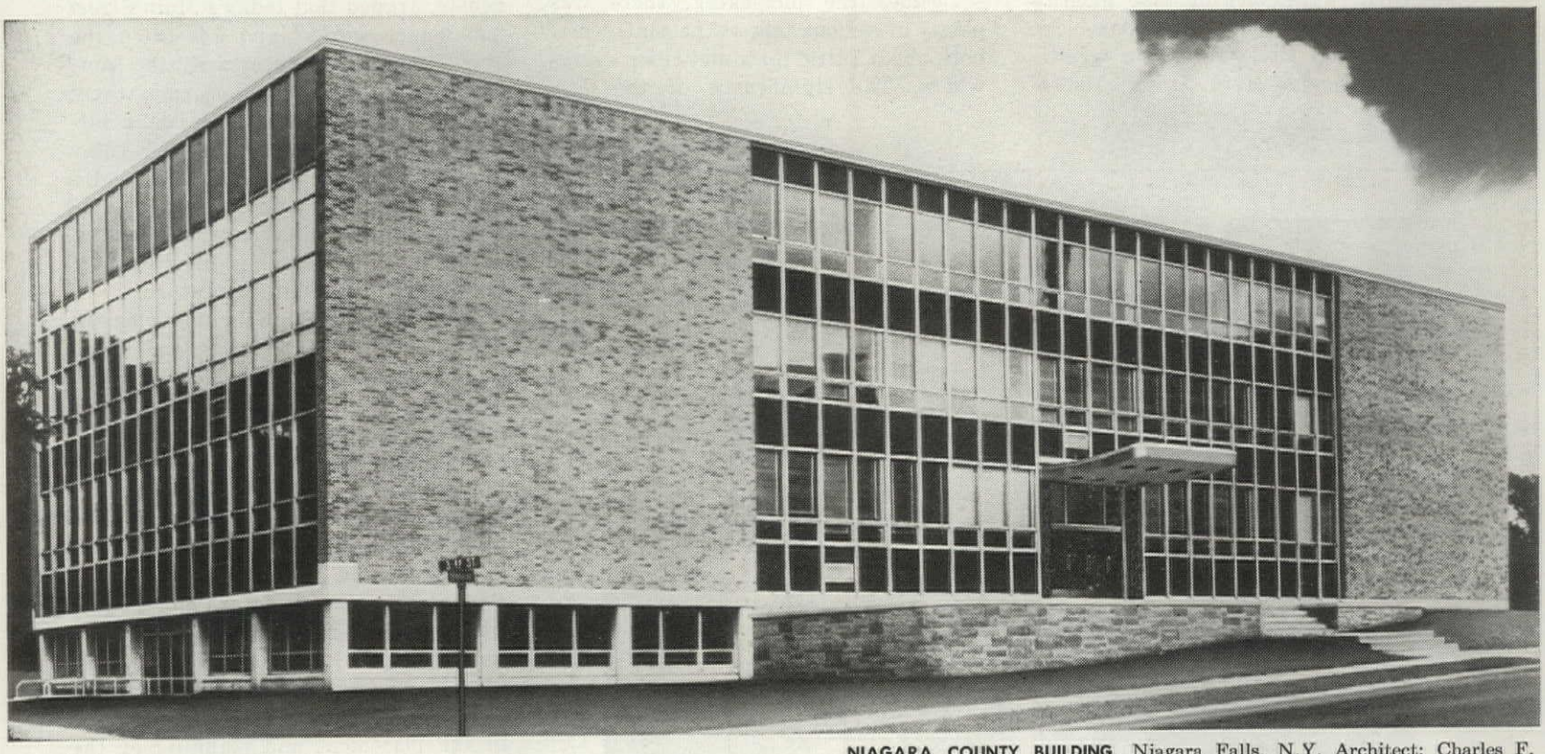
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NIAGARA COUNTY BUILDING, Niagara Falls, N.Y. Architect: Charles F. Obenhack. Contractor: Walter S. Johnson Building Co. Outside face of this LUPTON Curtain Wall is green-black porcelain-enameled aluminum laminated with honeycomb core, galvanized back. Double-glazed 1″-thick fixed lights, ½″-thick ventilators opening in.

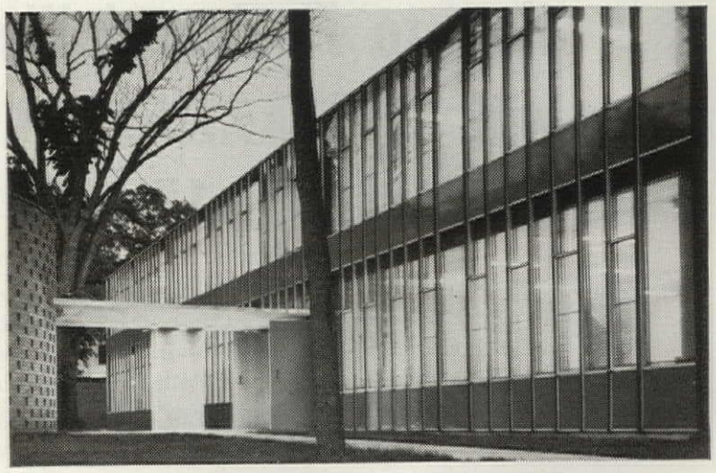
These views of recent LUPTON curtain-wall and window installations prove the beauty and modernity of LUPTON construction. The architects who created the buildings found many added advantages, among which are the following:

The wide range of LUPTON metal-window and curtain-wall styles provides unusual planning flexibility, a freedom of design with custom or stock units. In fact, LUPTON curtain-walls and windows are *your* idea, executed by LUPTON engineering and manufacturing experience.

Erection is fast and economical—usually from within the building, without scaffolding. In fact, LUPTON Aluminum Curtain Walls are often put up by LUPTON's own experienced, fast-moving crews.

Assembly is simplified, routinized, because all parts are accurately made and delivered on schedule by LUPTON, a veteran in metal-window manufacture.

INVESTIGATE the advantages of LUPTON construction—write for information on LUPTON Aluminum Curtain Walls and Metal Windows as they apply to your current and future projects.



COLLEGE OF THE BIBLE, Drake University, Des Moines, Iowa. Architects: Eero Saarinen & Associates, Bloomfield Hills, Mich. Contractor: Fane F. Vawter Co., Des Moines, Iowa. LUPTON curtain-wall units—one-third the thickness of masonry—go up fast, leave extra square footage indoors.

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METROPOLITAN PROBLEMS

At Little Rock, new urban spirit and automobiles

Cities in general and Little Rock in particular were foci of last month's Little Rock conference of the American Planning and Civic Assn. To wrestle with its theme—Main Street, 1969—APCA gathered more than 1,000 architects, planners, developers and urban officials. (The ubiquitous Arkansan, Winthrop Rockefeller, treated the guests to a picnic at his Winrock Farm, which was decked out with one of Buckminster Fuller's geodesic domes for the occasion.)

Besides the picnicking, there was plenty of serious talk at the conference, both about Little Rock and cities everywhere. The significance of the date 1969—when the 41,000-mi. federal highway net is due to be finished—was the key to what the speakers and conferees had on their minds. The problem: What to do about the automobile in the city.

Victor Gruen, whose Fort Worth plan has blazed a trail in this area of debate, argued that today's Main Street "no longer works" and advocated the spirit, though not necessarily the same form, of his Fort Worth scheme, where the city core is a pedestrian island surrounded by superhighways (AF, May '56). Westchester County Planning Director Hugh R. Pomeroy suggested all rights of way be at least 400′ wide, noting that overbuying of rights of way would pay off in the future.

Many conferees put the finger on the lack of plans, zoning maps, and sound thinking about highways as some of the weakest links in the chain of American urban development. "Most important," said C. D. Curtiss, Commissioner of Public Roads, US Dept. of Commerce, "is the coordination of highway planning with city and regional planning in and around urban areas." (Little Rock itself provided an example of just what the conferees were brow-furrowing over—the local Metropolitan Planning Commission was at that moment complaining that it had too little say-so in the placement and planning of the Third St. Expressway.)

Gruen pointed up some of the paradoxes that are daily arising from a lack of integration in urban planning. "We are building garages on Main St.," he said, "and installing parking meters there, and simultaneously we are building by-pass roads to divert automobiles from Main St. avoiding it like the plague. We are zoning commercial property in narrow strips along traffic streets with the intention of creating new Main Streets, and simultaneously we are building urban freeways which roll along in splendid isolation between landscaped banks. Thus we hold out the promise of traffic to merchants and developers invited to make use of such commercial zoning on Main Streets, yet we are taking that traffic away."

Perhaps the most provocative talk of the conference was one by John Osman, vice president of the Fund for Adult Education. Osman called for "an urban mind and an urban spirit" as the key to the development of "the civic humanist, who will not seek to flee the city, knowing full well that there is no escape from the urban revolution which has overtaken us."



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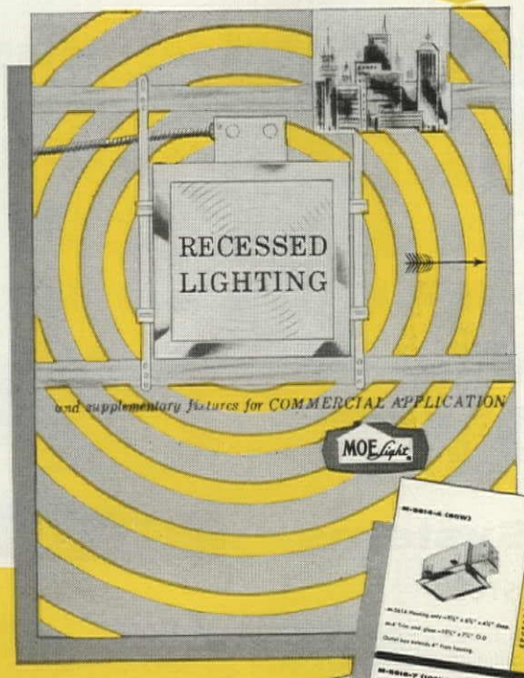
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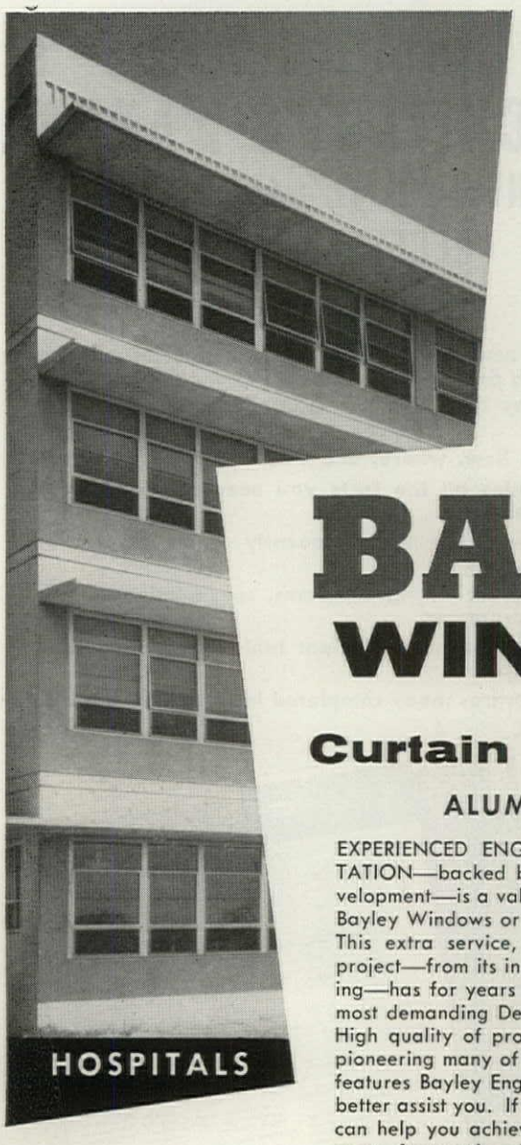
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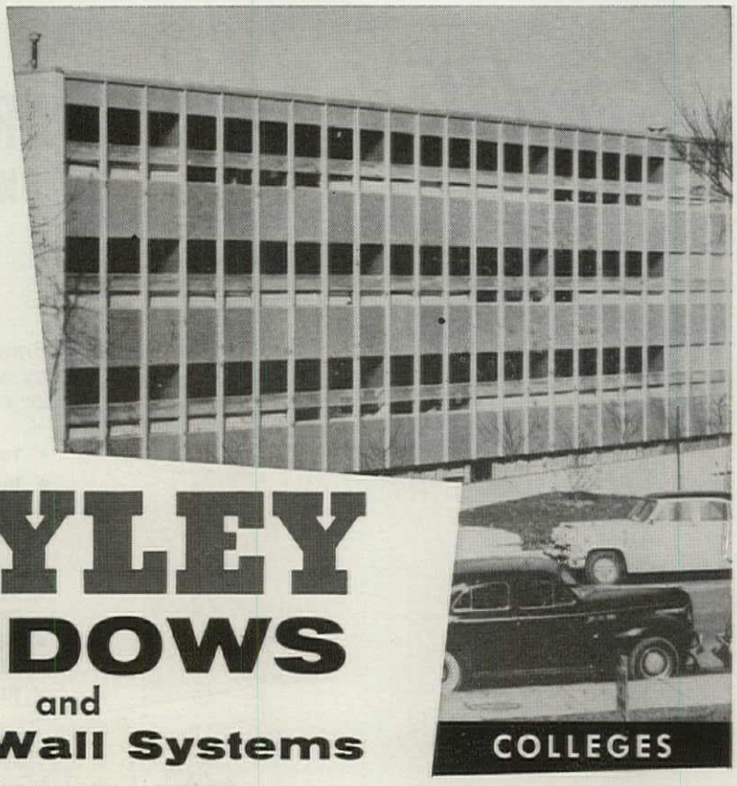
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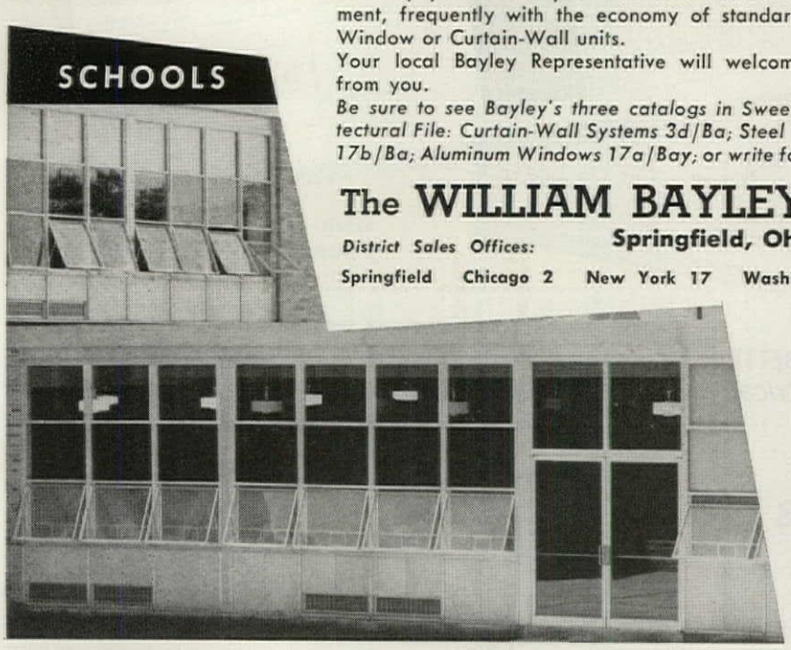
Be sure to see Bayley's three catalogs in Sweet's Architectural File: Curtain-Wall Systems 3d/Ba; Steel Windows 17b/Ba; Aluminum Windows 17a/Bay; or write for copies!

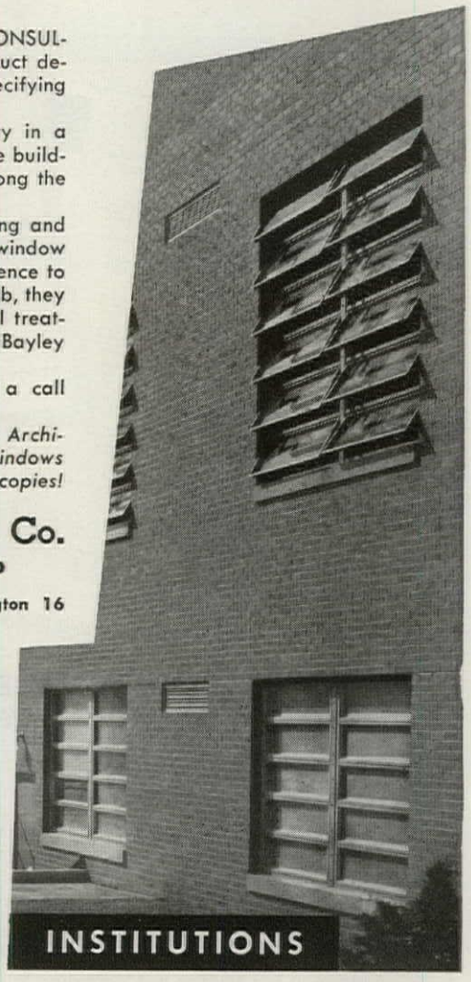
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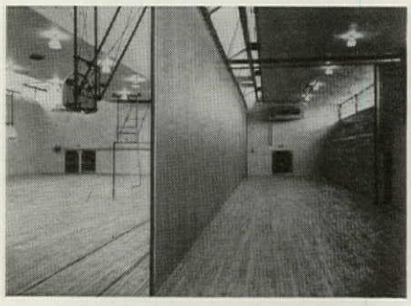
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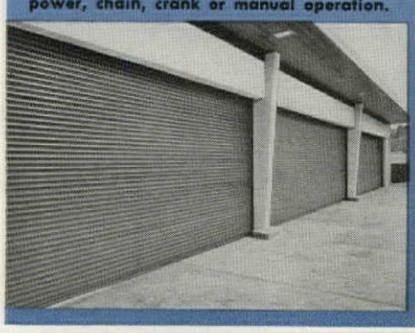
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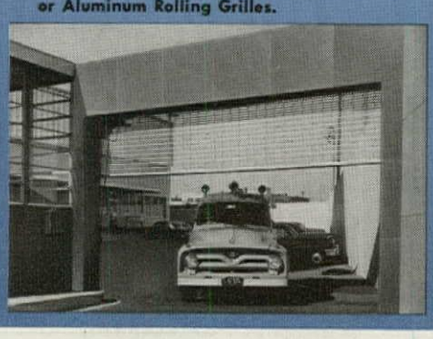
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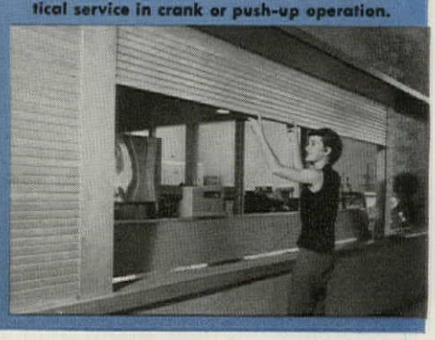
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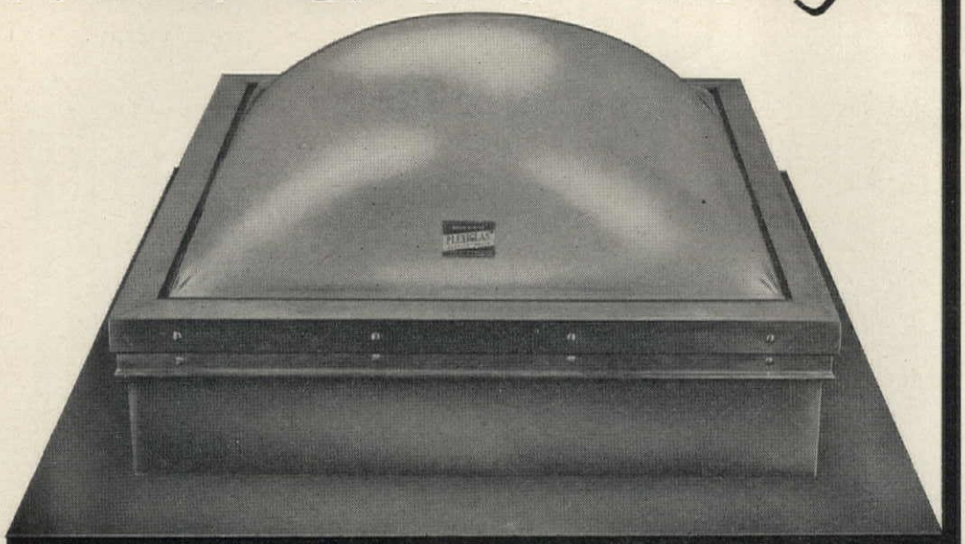


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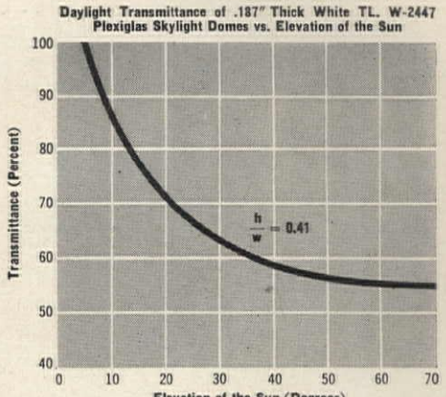
Graph No. 1 shows the results of transmittance measurements made outdoors with a large integrating sphere by the Rohm & Haas Daylighting Laboratory. Graphs 2, 3 and 4 relate these data and total solar energy data to typical practical conditions on standard IES and ASH & AE design values for daylighting and cooling load calculations.

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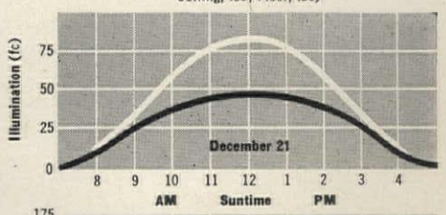
Daylight Transmittance of .187" Thick White TL. W-2447 Plexiglas Skylight Domes vs. Elevation of the Sun

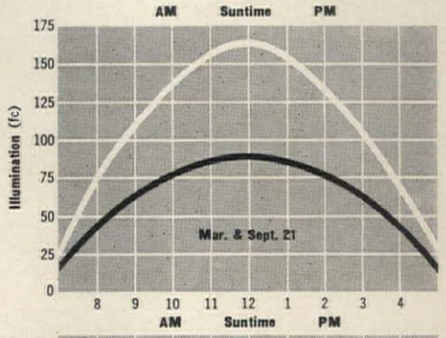


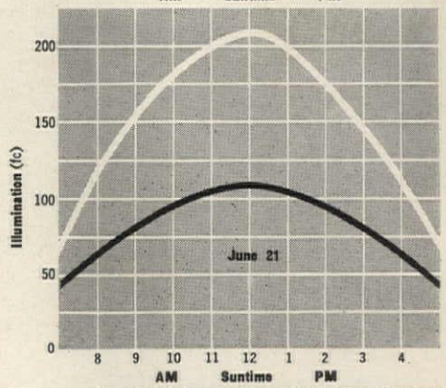
Note: $\frac{h}{w}$ = ratio of dome height to dome width (sq. domes)

Average Illumination at Desk Level in a Typical Classroom vs. Time of Day and Season Provided by Four 36"x36"x .187" W-2447 Plexiglas Skylights (h/w = 0.41) 38° N. Lat.

(Room size: 30'x30'x12' Reflectances: Walls, .65; Ceiling, .80; Floor, .30)



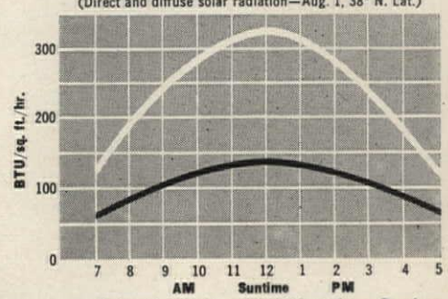




- - - Horizontal skylight openings without domes. Based on IES data.
—— Acrylic skylight of .187" thick white tl. W-2447 PLEXIGLAS, h/w = 0.41. Based on IES and Rohm & Haas Company Daylighting Laboratory data.

Total Solar Energy Transmittance of .187" Thick White T.L. W-2447 Plexiglas Skylight Domes

(Direct and diffuse solar radiation—Aug. 1, 38° N. Lat.)



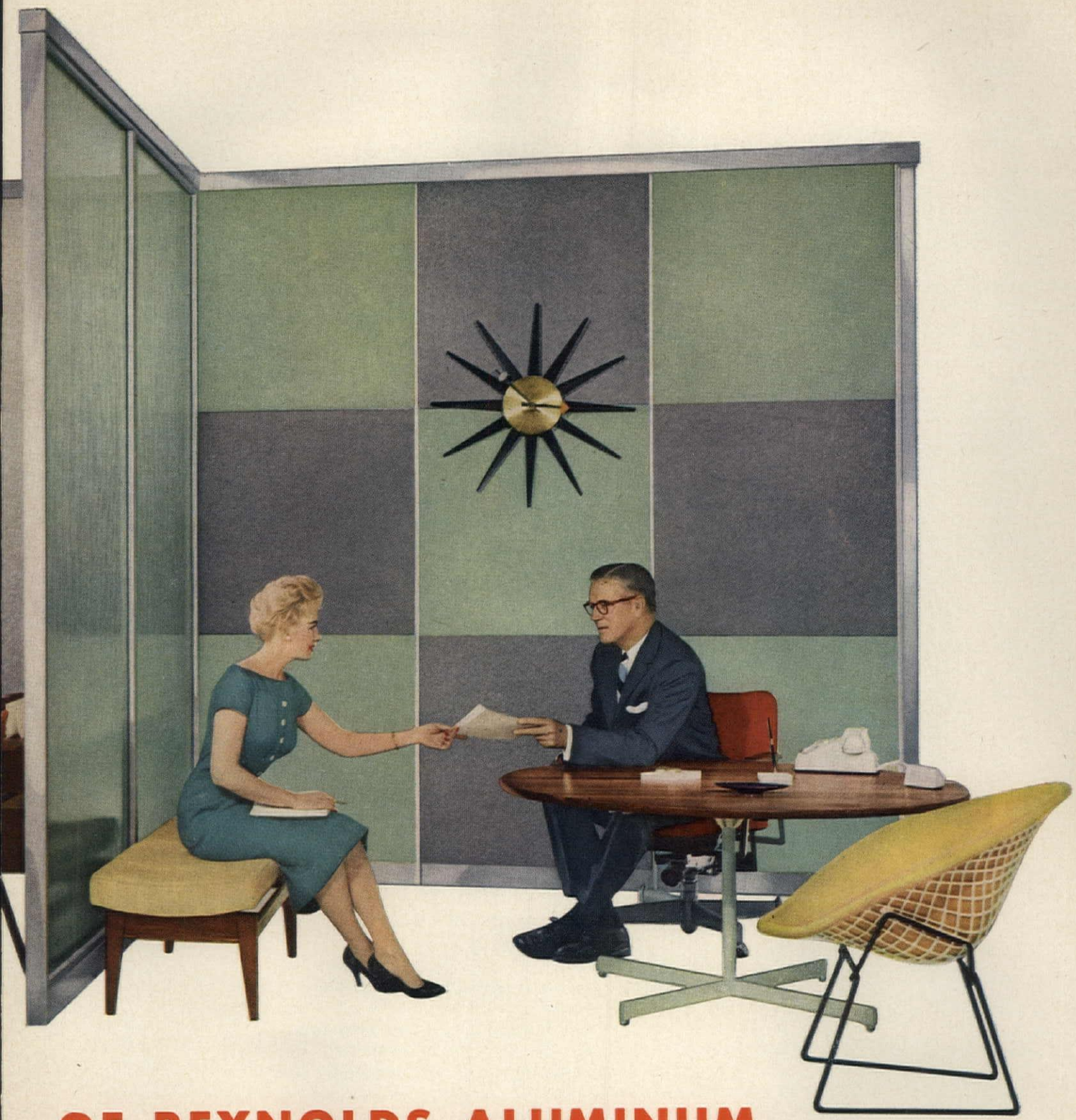
- - - Horizontal skylight opening without dome. Based on ASH & AE data.
—— Acrylic skylight of .187" thick white tl. W-2447 PLEXIGLAS, h/w = 0.41. Based on ASH & AE and Rohm & Haas Company Daylighting Laboratory data.



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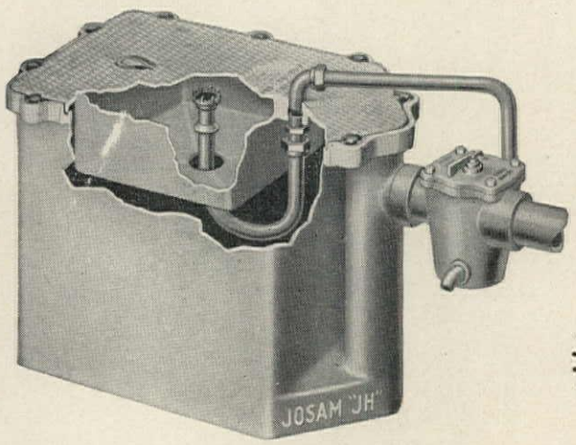
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SPANDRELITE has met with widespread approval on the part of architects all over the country. For it helps to give added character to their creative designs. It is *strong*, withstanding impact and wide temperature variations. It is *durable*, providing the timeless properties of glass, with color that is both uniform and non-fading. It resists weathering and corrosion, is non-porous, non-absorbent. And SPANDRELITE is exceptionally economical . . . may be installed in the same manner as ordinary glass and is easily cleaned.

Architects have a selection of two finishes—Twill and Polished—and 16 standard colors, as well as a wide range of custom colors—from pastels to chartones. SPANDRELITE is available in sizes up to 72″ x 144″.

For complete information on Pittsburgh's glass-clad curtain-wall systems, fill in and return the coupon. Moreover, our Architectural Representatives in your locality are anxious to help you in every way possible with any problems of curtain-wall construction. Consult with them at any time.

Other notable buildings using Spandrelite and Pittco 82-X bar framing members . . . now under construction or recently completed

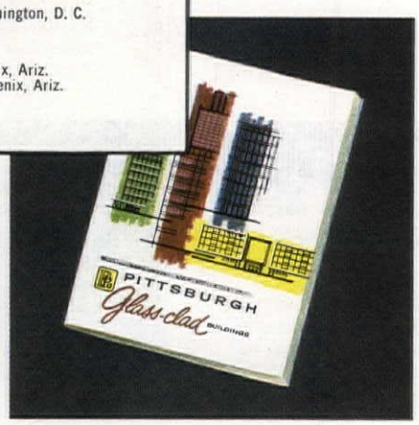
New Orleans Public Library
New Orleans, La.
Architects: Curtis and Davis, New Orleans, La.
Contractor: R. P. Farnsworth & Co., New Orleans, La.

Louisiana State Library
Baton Rouge, La.
Architects: Desmond and Davis, Hammond, La.
Associates: Burk, Lebreton and Lamantia, New Orleans, La.
Contractor: George Caldwell Company, Inc., Baton Rouge, La.

D. J. Kaufman, Inc., Men's Furnishings
Washington, D. C.
Architect: David Baker, Washington, D. C.
Contractor: William P. Lipscomb Co., Inc., Washington, D. C.

Motorola Electronics Facilities
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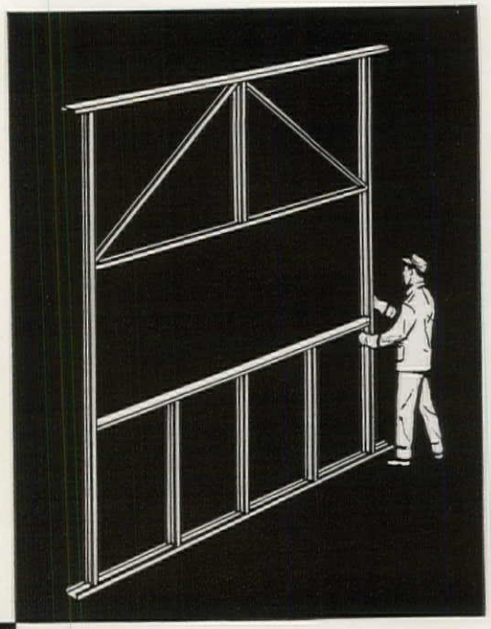
PITTSBURGH PLATE GLASS COMPANY

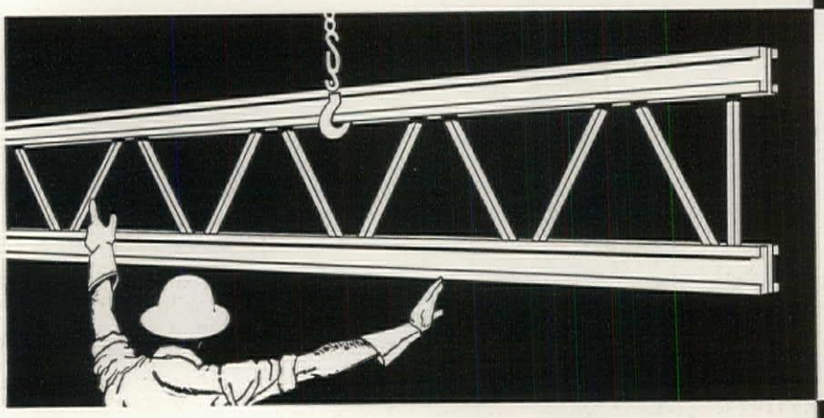
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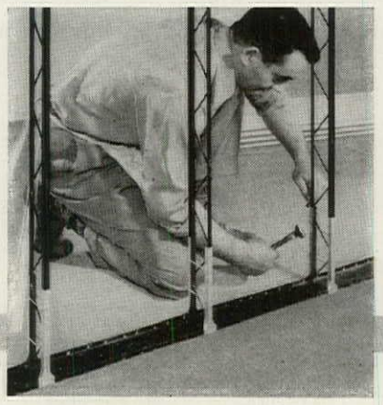
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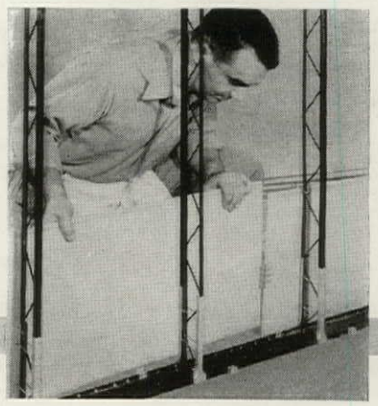
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NEW HOLOSTUD WALL SYSTEM forms non-load-bearing walls with greatest flexibility for vertical and horizontal routing of utilities. Can be used with gypsum or metal lath.



GOLD BOND GYPSUM LATH, locked with Gold Bond Clips, gives a strong plaster base. Holostud, with gypsum lath, gives sound transmission loss rating up to 50 decibels.



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THIS new Sears store is outstanding among the new retail establishments built in New Orleans since World War II. It is also a perfect example of how Gold Bond's idea of *undivided responsibility* works to the benefit of architects, builders, and owners.

The theory of undivided responsibility has been in effect and practiced by National Gypsum Company for many years. The idea is based on furnishing a complete line of ceiling and wall materials, all manufactured by one concern, all made to work together.

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Write *Undivided Responsibility* into your specifications by including complete Gold Bond wall and ceiling systems in your plans. For more information call your Gold Bond® representative or write Dept. AF-77, National Gypsum Company, Buffalo 2, New York.

GOLD BOND PLASTER—Unfibered Gypsum Plaster permits spraying basecoats. E-Z Soak Finish Lime, and Superwhite Gauging Plaster give a smooth, durable finish.



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One of the comfortable and attractive bar lounges in The Beverly Hilton where carpet's sound control is of great importance.

How much sound does carpet control?

Recent tests, conducted at a nationally-known acoustics laboratory prove that carpet has a range of performance in sound control equal to many acoustical materials used solely to control airborne noise and it virtually eliminates impact noise.

As a result of these tests, carpet emerges as a floor covering which does a dual job: it acts as a superior floor covering and as a versatile acoustical material. Carpet is the only floor covering which delivers significant sound absorption of airborne noise plus substantial impact noise reduction. No other acoustical material doubles as a floor covering or is as effective in reducing floor impact noises at the source.

And when you consider that carpet actually gives your clients a 50% saving on maintenance costs in heavy traffic areas—where sound control is of great importance—its economy is all the more apparent.

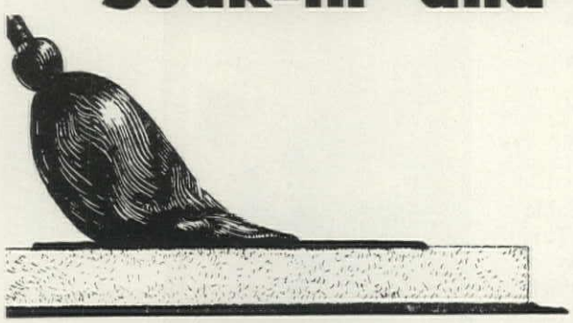
Send today for your file copy of "Sound Conditioning With Carpet," the complete study of carpet's ability to control airborne and impact noises. You'll discover that, in addition to the beauty, dignity and safe footing carpet brings to any area, it is the most economical sound control you can specify. If you don't already have your copy of **"Cutting Costs With Carpet,"** a comparative study of the maintenance costs of carpeted and non-carpeted floors, ask for that, too. Write Dept. A-3, Carpet Institute, Inc., 350 Fifth Avenue, New York 1, New York.

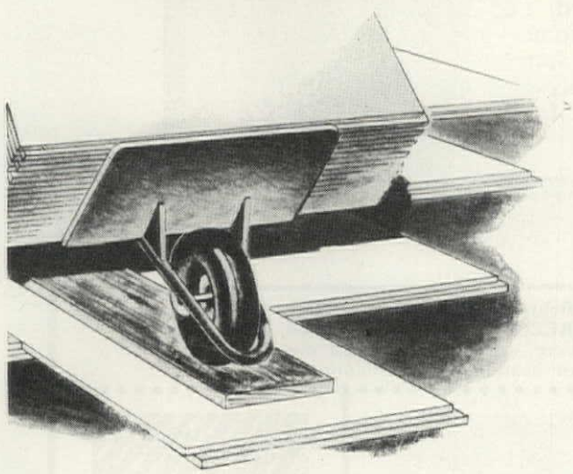
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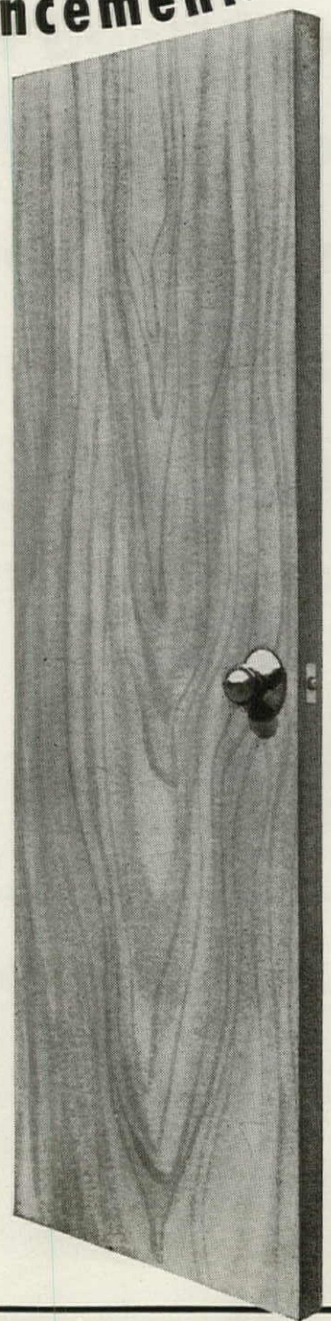
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Now BETTER THAN EVER with



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. . . the new microseal surface-treating process that gives REZO doors a finish so satin smooth you'll hardly believe your fingertips as you feel it!

Paine REZO Super Satin Surface Doors are now available factory-treated with this new Super Microseal process. This amazing new process uses special equipment to apply a precision-controlled, penetrating solution of additives which is followed by the application of heat and pressure. By "fusing" the wood lignin and additives, the result is a Super Microsealed door surface that resists soiling . . . prevents grain and fiber raising . . . has a uniform surface texture that is hand rubbed in appearance . . . enhances the natural beauty of the wood, and should a higher gloss be required, it takes paste wax, penetrating stain, varnish, lacquer, or paint with *better results* than you've ever known before. It's a fact — words cannot describe the difference this new process makes. You have to feel it yourself to believe it! Write for full details of the Paine REZO "Triple S" Doors today.

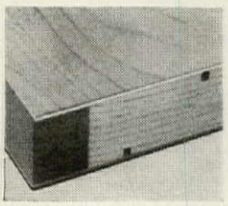
* Trademarks "Super Satin Surface" and "Triple S" or "SSS" — Use licensed on products having a Super-sealed or Super Microsealed surface that satisfies the quality standards of the trademark owner.

America's finest flush doors are Rezo doors with all wood grid core

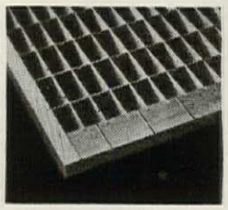
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Below are two of many reasons why Paine REZO Doors, with air-vented, all-wood grid core, are America's finest doors for residential or institutional installation.



Air vents in Rezo Doors help equalize moisture content inside.



Rezo's all wood grid core assures rigidity, strength, light weight.

How ANEMOSTAT
Air Diffusers help make movies

A carefully designed air conditioning system enables Production Center, Inc. to make movies at top speed during the hot summer months. In fact, production has been increased by three to four times, according to Center estimates.

Anemostat Air Diffusers help do this vital job. They draftlessly diffuse 20,000 cubic feet of cooled air per minute pushed by giant fans through the soundproofed ducts. The two main studios have 32 vertical ducts, ranging in diameter from 18 to 24 inches; of these, 24 are telescopic and can be raised or lowered to suit requirements. The conditioned air, efficiently distributed by Anemostat Air Diffusers, offsets the heat from the tremendous wattage of the lights needed for film-making.

Movie-viewing, as well as movie-making, is aided by Anemostat Air Diffusers. They are installed in hundreds of theatres throughout the country. Anemostat Air Diffusers also provide *true* draftless comfort and uniform air distribution in schools, hospitals, banks and practically all types of commercial and industrial buildings.

One of three *completely air conditioned* sound stages at Production Center, Inc. in New York City.





Note the Anemostat Air Diffusers installed on the telescopic ducts.

Joseph B. Klein, Architect
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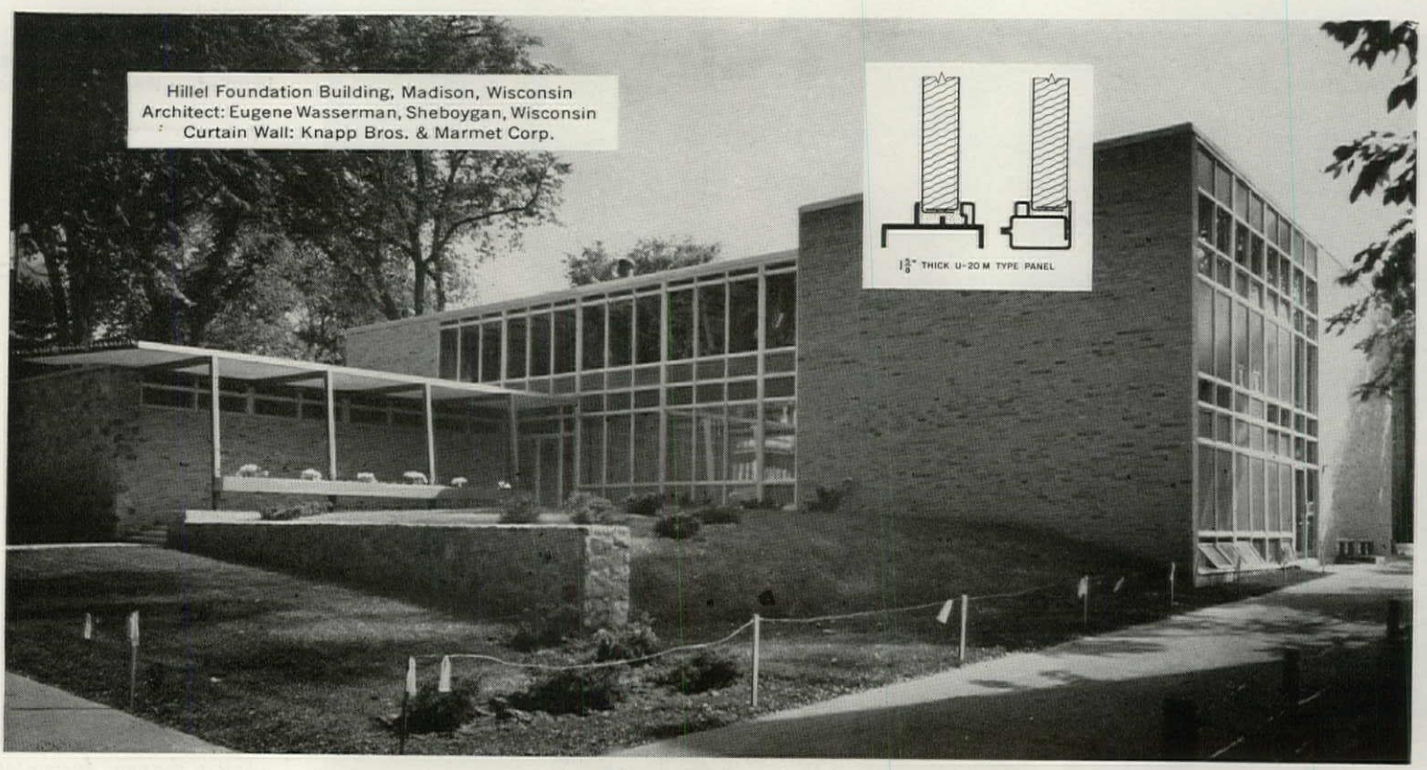
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ERIE Porcelain

Enamel Curtain Wall Panels

1. **Color without Maintenance**
2. **Building-Life Durability**
3. **Any Desired U-factor**
4. **No Moisture Penetration**
5. **No Weep Holes Required**
6. **Positive Assembly**



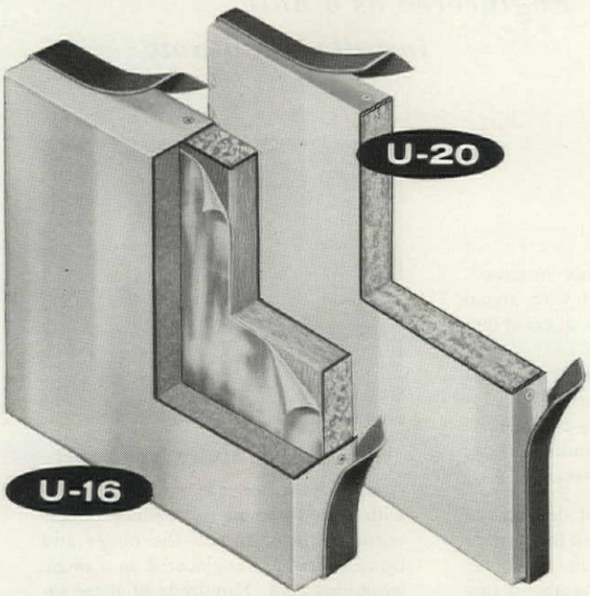


Peoples Federal Savings & Loan Association, Peoria, Illinois. Architect: Gregg & Briggs, Peoria, Illinois

Erie Porcelain Enameled Curtain Wall Panels guarantee you all these requisites of the ideal wall because they are engineered to these specifications.

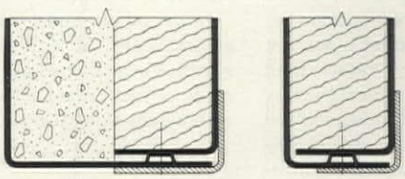
Completed buildings in all climates of the country stand as evidence to these claims, and *modifications* of both panel types have been developed to match all recognized framing systems and insulation requirements.

If you have been looking for curtain wall panels that have been specifically designed to fulfill your requirements for color, insulation and permanence, check into the ERIE U-16 and U-20 designs.



Write for this complete descriptive bulletin which includes details and modifications. Sketches are also available showing modifications to any desired framing system.





Mechanical Fastening through flanges with minimum metal-to-metal contact is illustrated in these partial cross sections. Various thicknesses and U-factors are readily achieved.

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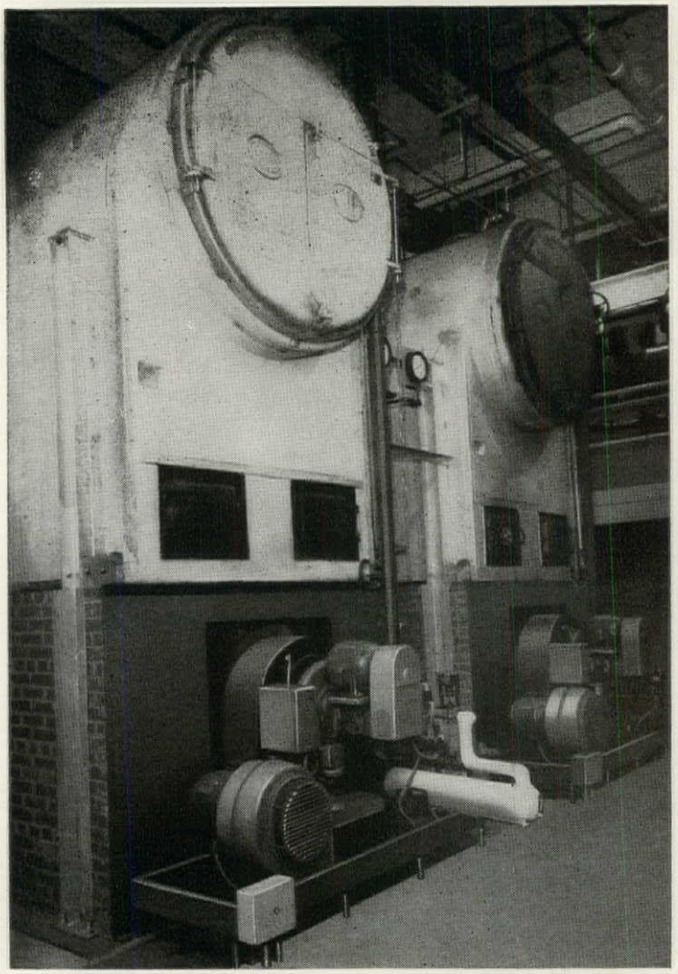
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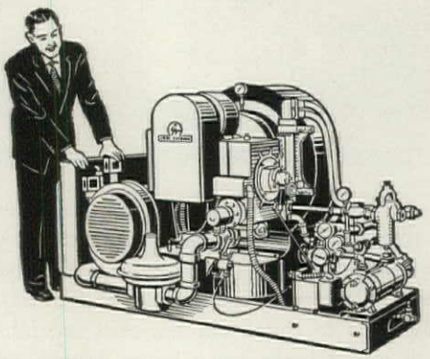
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Iron Fireman packaged oil firing units applied to firebox boilers. These units are suitable for nearly all types of steam or hot water boilers. The heating plant shown above is in the office building of the Celanese Corporation of America, Charlotte, N. C.

A complete firing system by Iron Fireman



Engineered as a unit . . .
installed as a unit

For oil, gas or oil-gas combination

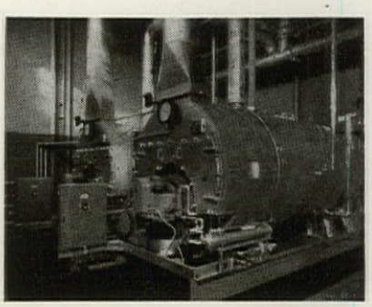
Here is a *factory engineered* firing system. Everything needed for balanced firing is mounted on a rigid steel base, ready to bolt to the boiler front. Nothing is left to the uncertainties of local assembly. For example, the critical refractory firing throat is pre-cast and installed at the factory, rather than being molded on the job. It is critical because proper design and accurate placement of the refractory tile increases combustion efficiency. It is scientifically designed to introduce secondary air around the burner head, avoiding the elaborate firebox brickwork in the typical conversion job.

Accurate control of all firing functions Every factor that affects firing efficiency is engineered into the unit at the factory. The unit includes: (1) Single or dual-fuel burner, with complete fuel handling systems. (2) Forced draft air supply. (3) Enclosed control panel, with instruments mounted, factory wired and tested, and with signal lights and dials that afford a complete reading at a glance.

In the oil-gas units, fuels can be switched automatically, or with the simple flick of a switch. Fires any fuel gas or any commercial grade of fuel oil available, including No. 6, without changing burner adjustment.

Local service. Hundreds of dependable Iron Fireman dealers are located in all parts of the United States and Canada. Their factory trained personnel are ready to furnish quick service to your burner, should the need arise. In addition, factory engineers are available in most areas to help you and your consulting engineer in planning boiler room modernization or construction.

For further information, mail coupon.



With matched Scotch type boiler

America's top boiler manufacturers join with Iron Fireman to produce boiler-burner units in which the boiler and firing system are engineered as a single integrated unit. Hundreds of these installations are in use in all parts of the world, with outstanding performance records. The boiler room, shown above, equipped with Iron Fireman-Kewanee units, is in one of the Detroit plants of the Briggs Manufacturing Company.

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AUTOMATIC FIRING EQUIPMENT FOR OIL, GAS, COAL

IRON FIREMAN MANUFACTURING CO.
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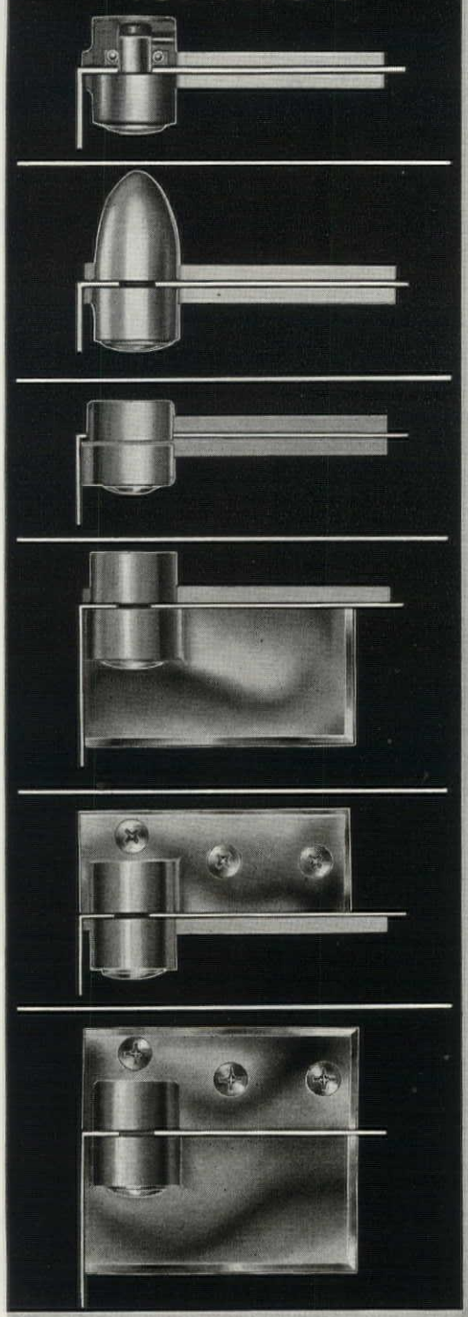
Please send information on Iron Fireman forced draft firing for oil, gas, or oil-gas combination.

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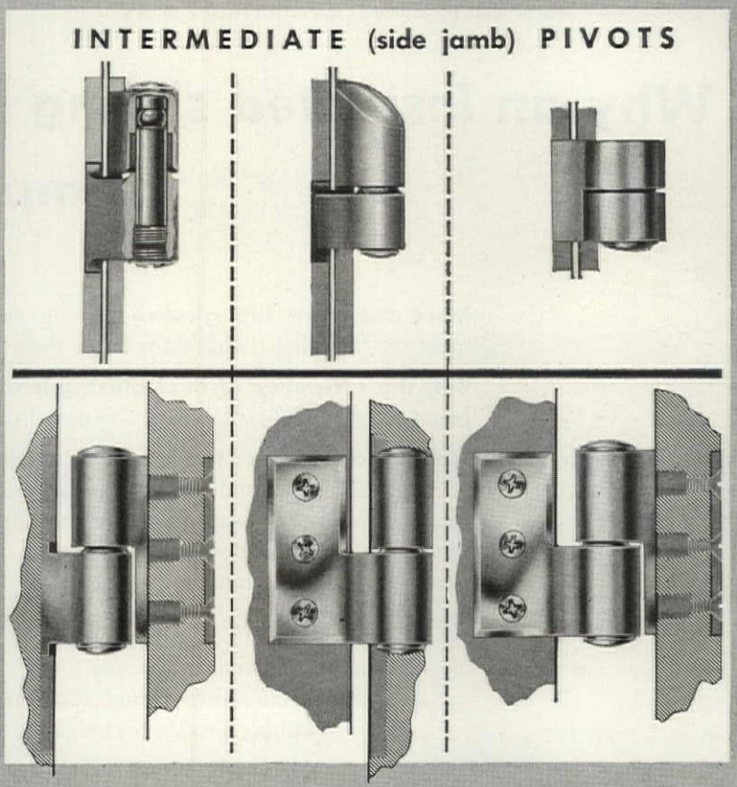
a specialized RIXSON OFFSET PIVOT

for every door and jamb material or construction

TOP PIVOTS



INTERMEDIATE (side jamb) PIVOTS



Whether for standard construction or for bull nose type framing with both leaves mortised . . . or for door and jamb combinations in hollow metal, channel iron, kalamein or tubular steel that require the jamb or door leaf surface mounted or both leaves surface mounted . . . there is a RIXSON top and side jamb pivot designed and manufactured for the specific installation.

You can specify RIXSON offset type closers or pivot sets for all entrance and interior doors.

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Heat and condensation control—Now Ador Thermo Door is first to offer an insulated door to match the insulation characteristics of 1" dual glazing.

Why an *insulated* sliding glass door is important to users of dual

More and more dual glazing is being used in sliding glass doors to meet the booming demand for large glass areas in today's construction.

But, the efficiency of dual glazing is oftentimes restricted because of heat flow through the metal of the door.

Now, Ador offers an *insulated* sliding glass door whose efficiency is compatible with dual glazing. Designed in the same manner as dual glazing, the Ador Thermo Door is actually *two* doors in *one*—an inner unit and an outer unit—separated by continuous strips of non-metallic insulation.

The result is an *insulated* unit which offers these important advantages:

1. *a door designed exclusively for 1" dual glazing,*
2. *a door insulated to reduce condensation,*
3. *a door double weatherstripped for minimum heat loss.*

For complete information on the Ador Thermo Door, see your Ador dealer, or mail the coupon below today.

Thermo Door by *Ador*

America's Foremost All-Aluminum Sliding Glass Doors

MAIL THIS COUPON FOR INFORMATION ON THE ADOR INSULATED THERMO DOOR

Ador Sales, Inc.
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Please send details of the THERMO Door.

I am an architect ☐ a builder ☐

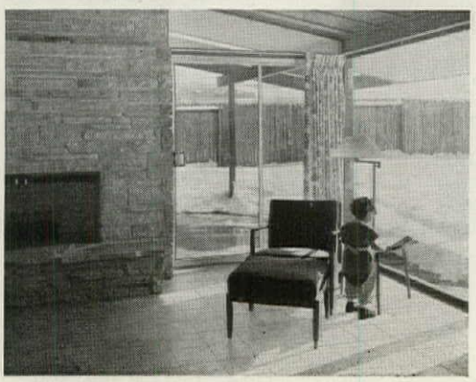
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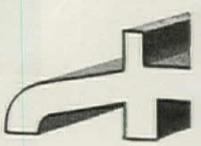
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address_____

city_____ state_____

Double weatherstripping of heavy high pile mohair assures positive weathersealing.

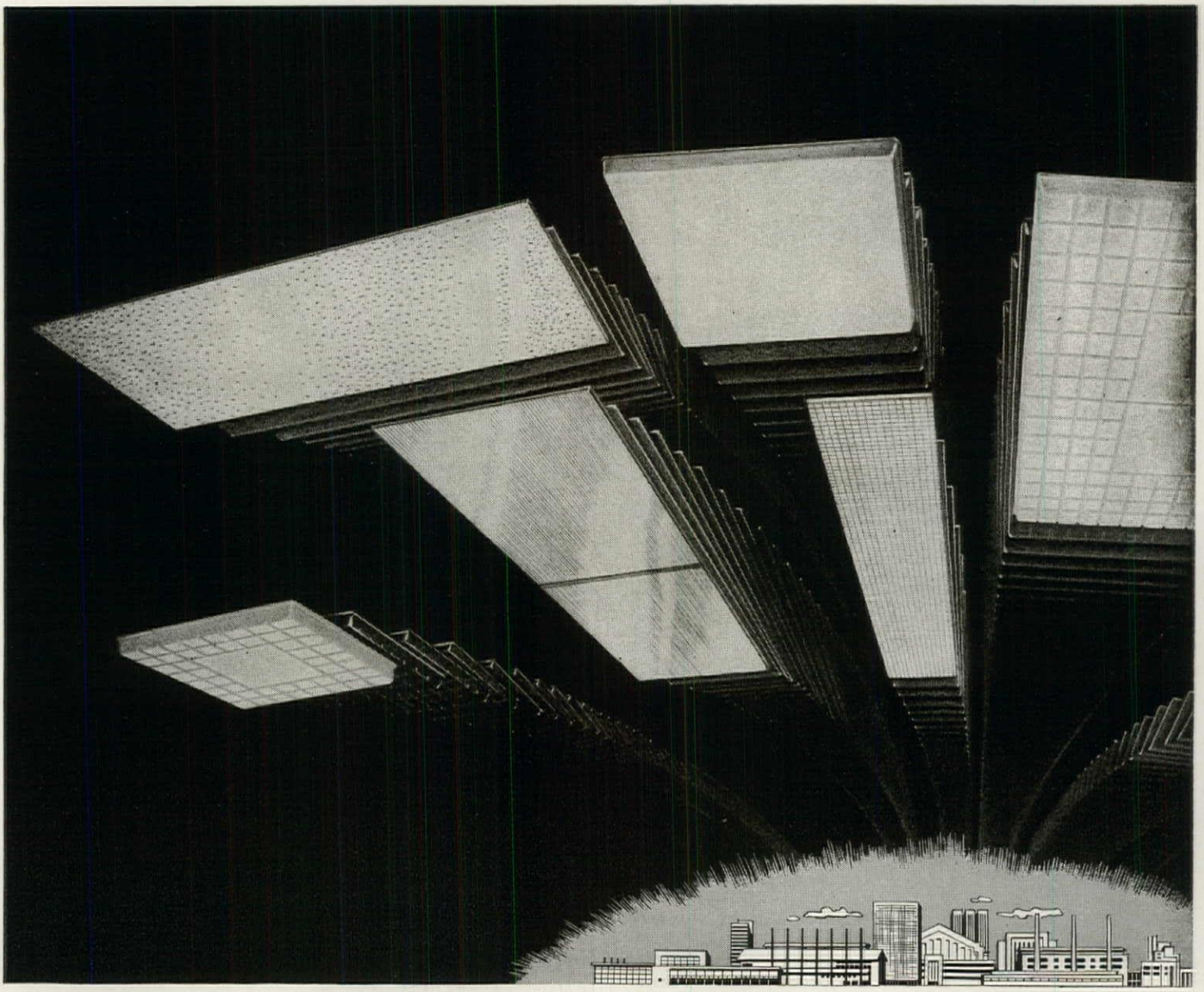




glazing



Ador Thermo Door is two doors in one, insulated from each other to control heat transmission and condensation. Threshold and lower door section are shown here. Nonmetallic insulation strips are shown in black.



NEW ZENITHS Predicted for

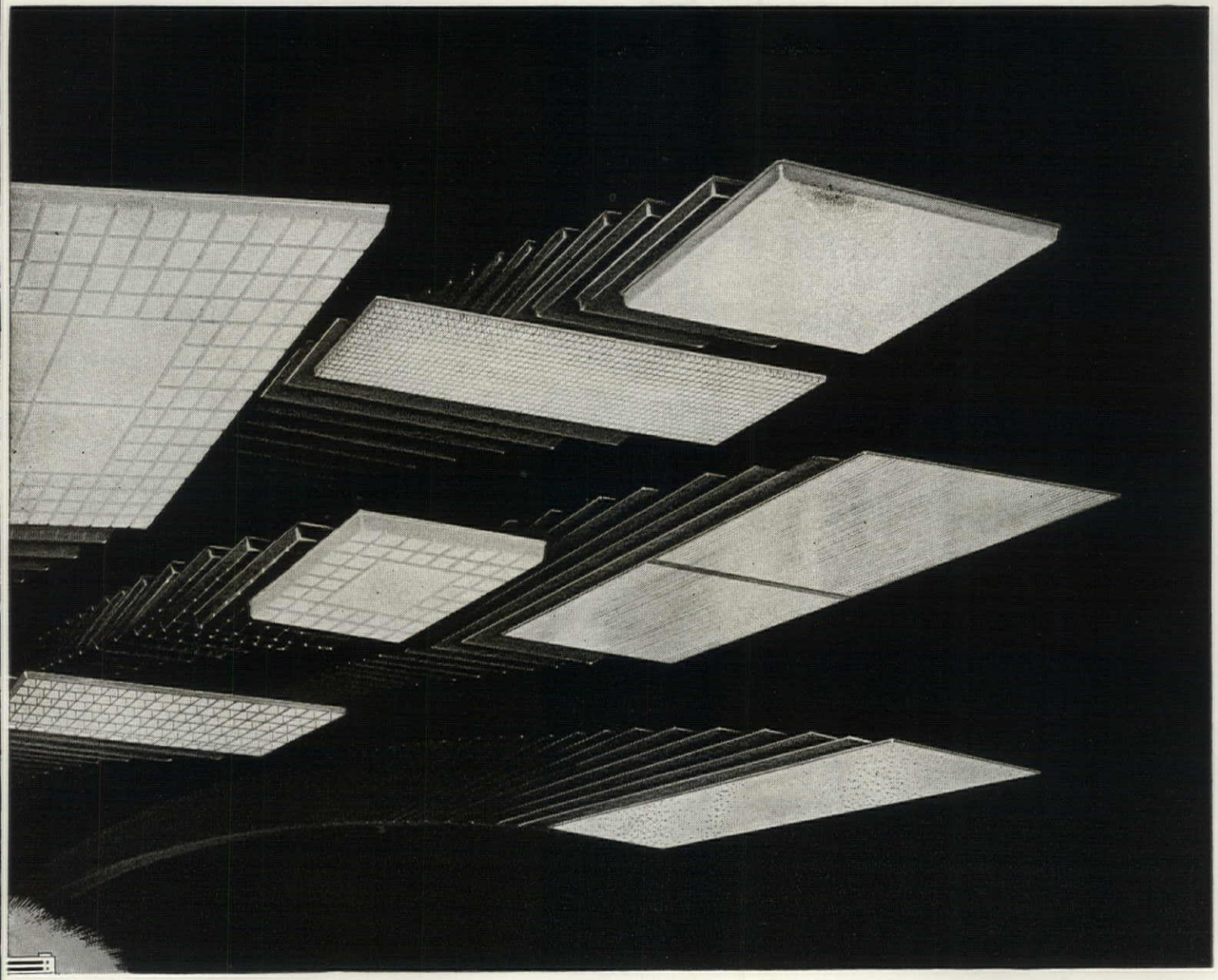
MAINLINER LUMINAIRES

created by Westinghouse provide Myriads of New Decor Opportunities... New Esthetic Appeal... Maximum Lighting Efficiency with Untold Ease of Installation and Maintenance

Here—now—are luminaires accommodating—*and conducive to*—new ceiling design consistent with the finest architectural planning today!

They are the new Mainliner Luminaires, by Westinghouse, themselves contributing fresh, decorative excellence to the lighting design for any type of large area room. Yet functionally so superior, both in application and service, that they tend to obsolete most previous thinking on conventional luminaire installations!

Mainliner Luminaires afford more than 1,000 all different combinations—including surface mounting and 3 recessed



Design of Interior Lighting of All Types!

mounting types—in 13 selected shielding styles—and 6 basic variations in size!

Mainliner Luminaires are completely modular—with precise dimensional correctness, ideally "matching" any type of "squared" ceiling material whatsoever! They embody every refinement of advanced construction detail. They exemplify the simplest possible application, installation and maintenance characteristics.

Mainliner Luminaires will give *your* interior lighting designs—for *any* large area—new *distinguished* pre-eminence!

J-04412

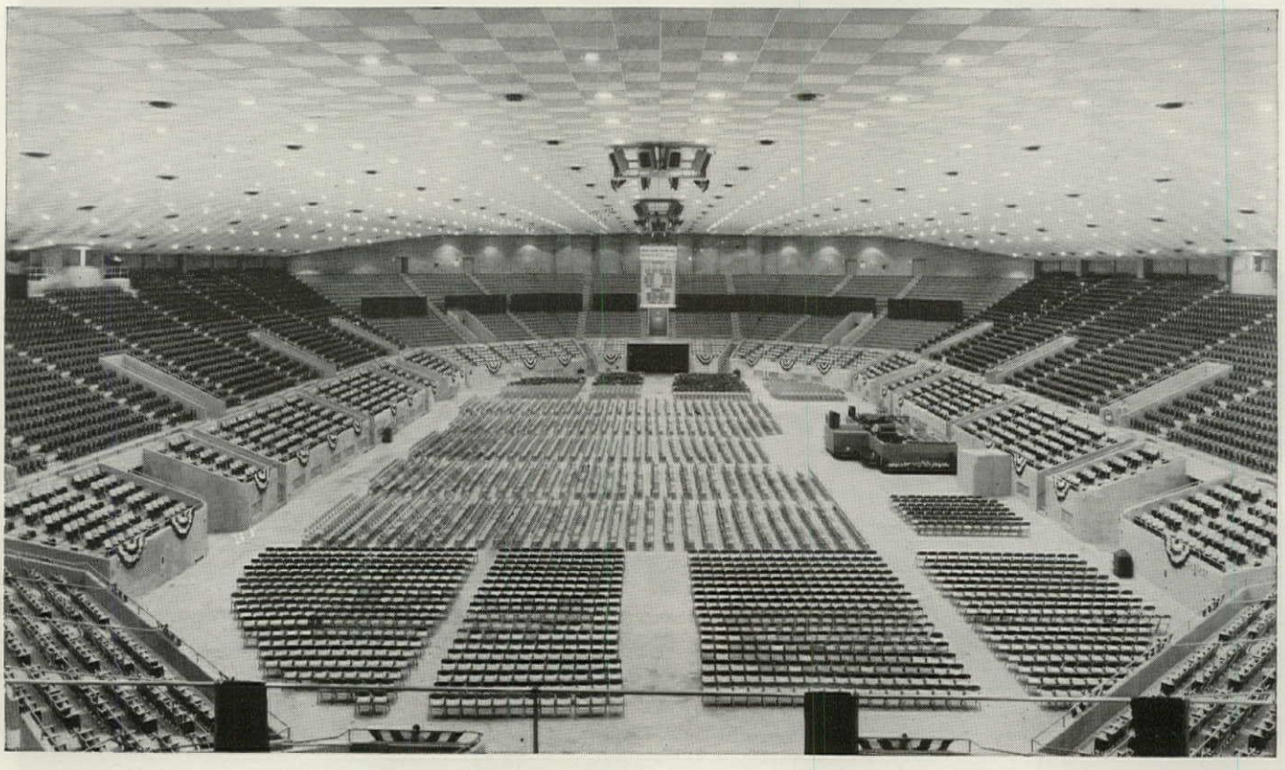


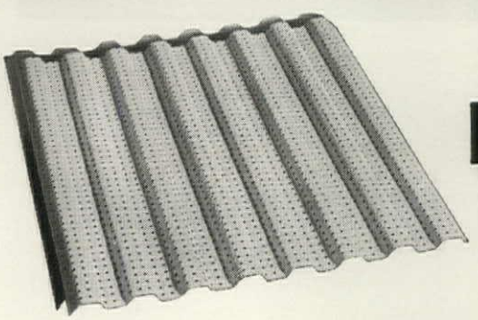
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You'll *want* to employ Mainliner Luminaires *now!*

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HUGE COLISEUM OF THE NEW KENTUCKY FAIR & EXPOSITION CENTER







...SOUND-CONDITIONED WITH

ReynoCoustic

This 125,000 square foot installation consists of ReynoCoustic Pyramid Grid Pans in 4-foot squares set in alternating direction of pattern.

The photograph attests the handsome appearance of this ceiling. The practicality of the movable panels, for access to utilities, is obvious. Aluminum's freedom from rust and resistance to corrosion assure lowest maintenance. Its incombustibility earns the U.L. label. And these advantages are all in addition to maximum noise reduction!

You can now get all these benefits in five types of ReynoCoustic—the original Long Span corrugated panels, Pyramid Panels, Pyramid Grid Pans, Snap-In Flat Pans, and Lay-In Flat Pans. Installed cost is low. Write for details.

A complete installation service is available. For name of nearest Franchised Acoustical Contractor, call the Reynolds office listed under "Building Materials" in classified phone books of principal cities. For literature, write to Reynolds Metals Company, Building Products Division, 2020 South Ninth Street, Louisville 1, Kentucky.

See "Circus Boy", Reynolds dramatic adventure series, Sundays, NBC-TV Network.

REYNOLDS ALUMINUM

BUILDING PRODUCTS

"A skyscraper must be every inch a proud and soaring thing, rising in sheer exultation." • Louis Sullivan

MURCHISON TOWER

new home of the
First National
Bank of Denver

This bold imposing landmark on the Denver sky line is the city's tallest and largest office building. It rises 28 stories above Denver's mile high elevation and has 586,000 sq. ft. of floor space.

Located in the heart of Denver's financial district.

Roof is designed as a heliport.

Parking wing provides space for 450 cars.



Once set, a Powers pneumatic thermostat holds temperature constant day after day It needs no frequent checking or readjustment.

POWERS

QUALITY SYSTEM OF AIR CONDITIONING CONTROL will regulate the modern high velocity year 'round air conditioning in this prestige building. Occupants of each space can dial the temperature they like and enjoy utmost comfort.

Powers Graph-O-Matic Control Center will give visual supervision of the heating and air conditioning system.

Simplicity and dependable performance of a Powers pneumatic control system enables it to provide utmost comfort with a minimum of maintenance.

To get the biggest return on the investment in air conditioning ask your architect or engineer to include a Powers Quality system of control. For further information write The Powers Regulator Co., Skokie, Ill. Offices in Chief Cities.

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Mark of Quality Control

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ALL OF DENVER, COLORADO
Builders: MEAD & MOUNT CONSTRUCTION CO. • Mechanical Contractor: NATKIN & CO.

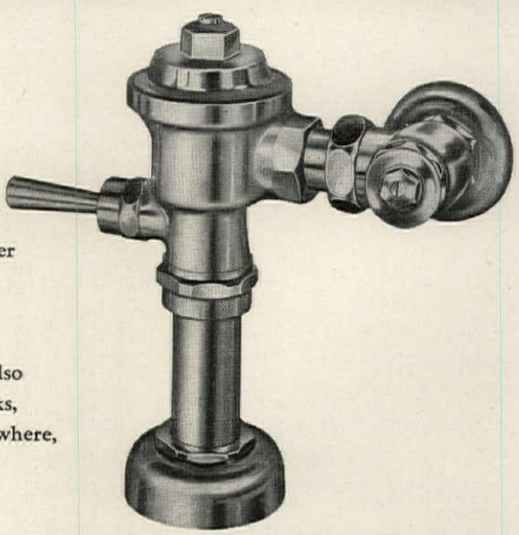
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plumbing contractor
COWAN SUPPLY COMPANY
wholesale distributor
AMERICAN RADIATOR & STANDARD SANITARY CORP.
plumbing fixtures manufacturer

On a gentle slope off Peachtree Street, famed commercial center of Atlanta, stands this gleaming COYNE & DELANY installation . . . first completed element of the proposed Peachtree-Baker Center. A landscaped city block will eventually include a hotel and a merchandise mart, all in a relaxed and pleasant atmosphere. Featuring solid walls of glazed white brick and curtain walls of glass, aluminum, and porcelain enameled steel panels, the Peachtree-Baker Building also provides pedestrians with weather protected colonnades and red brick walks, reminiscent of old Atlanta. For buildings with a future, here and everywhere, careful long range planning calls increasingly for DELANY — "the fastest growing name in flush valves!"





This new "HAND BOOK and CATALOG No. 53" is the most comprehensive of its kind—designed for everyday reference . . . 19 pages of installation details for exposed, concealed and special FLUSH VALVE installations . . . over 75 blue prints . . . cut away views . . . many pages of charts, formulae, piping details . . . sent free, if requested on firm letterhead.

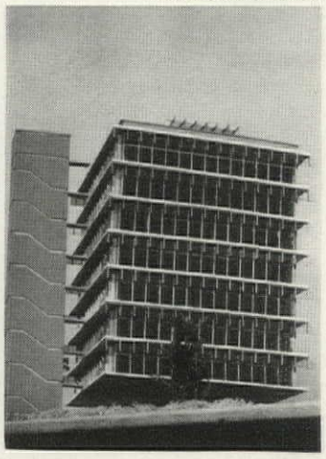
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DELANY *Flush* **VALVES**

Since 1879

A roundup of recent and significant proposals

BOB EAST, MIAMI HERALD

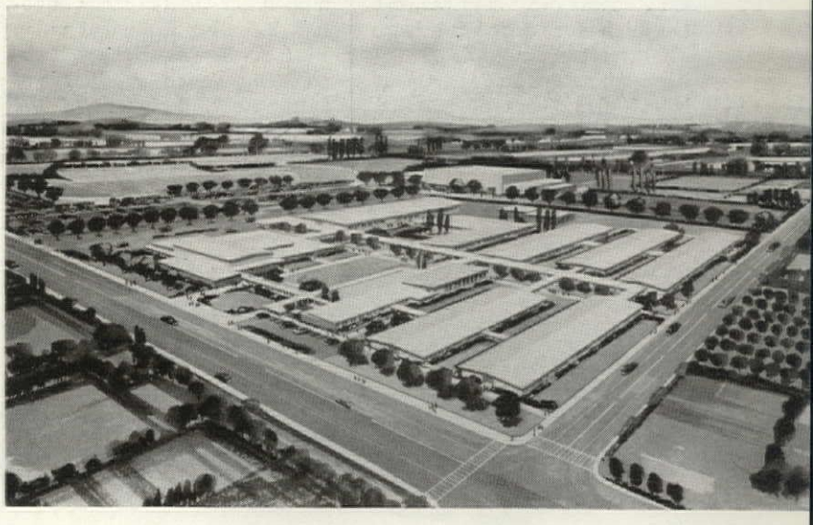


CANTILEVERS AND COCONUTS

Seven floors will be cantilevered out from a central utility stem in an office building designed by Rufus Nims in the Coconut Grove section of Miami. Sun protection will be provided by 4′ overhangs, plastic jalousies on the south, fixed overhanging shades on east and west. Building code required second staircase (1) in addition to central one.

SUPER HIGH SCHOOL

Planned for 2,500 students, the James Monroe High School in Sepulveda, Calif. (below) will spread over 38 acres. Laboratory, industrial arts and gymnasium buildings are shown at left, classroom buildings at right. In addition to sports fields, Los Angeles Architects Heitschmidt & Thompson allowed space for bikes, buses and cars.

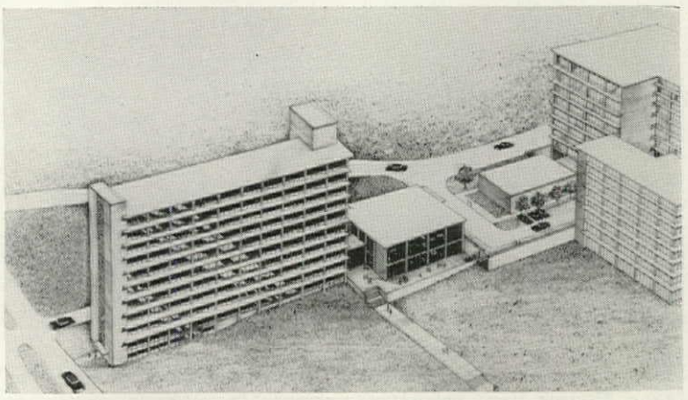


SQUIRE HASKINS



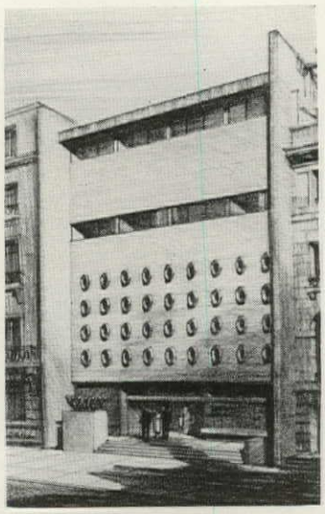
SIDEWALK SETBACK

A wider sidewalk — boon to jostled pedestrians—will result from placing a Dallas office building away from the property line. Architects Hedrick, Stanley & Morey designed the 20-story tower for C. J. C. Realty Co. Color note: bright ceramic mosaic and porcelain spandrels.



CO-ED DORM—WITH BUILT-IN CHAPERONES

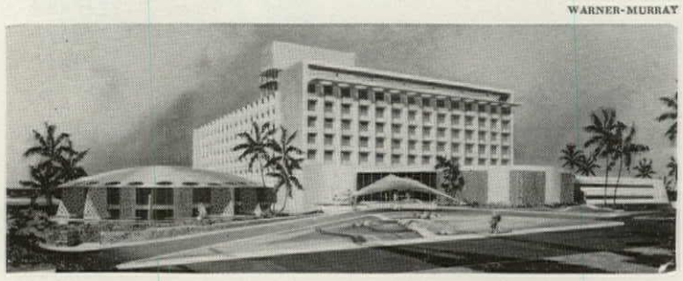
University of Arkansas Medical School planned separate buildings for married and single students but found the cost too high for a federal loan. The architects call the resulting combination an "apartment hotel"—five floors of married student apartments on top, a dormitory for 312 single men and women below. The Community Facilities Administration approved a loan of over $2 million for the ten-story building, including a student union wing. Architects: Erhart, Eichenbaum, Rauch & Blass of Little Rock, designers of the present University Medical Center in Little Rock.



CITY SYNAGOGUE

An orthodox synagogue and neighborhood center within walking distance of congregation members is under construction on 62nd St. in New York, just off Fifth Ave. The exterior of the five-story-and-penthouse building, designed by Percival Goodman, will be of iron-spot glazed brick; oval windows will be stained glass.

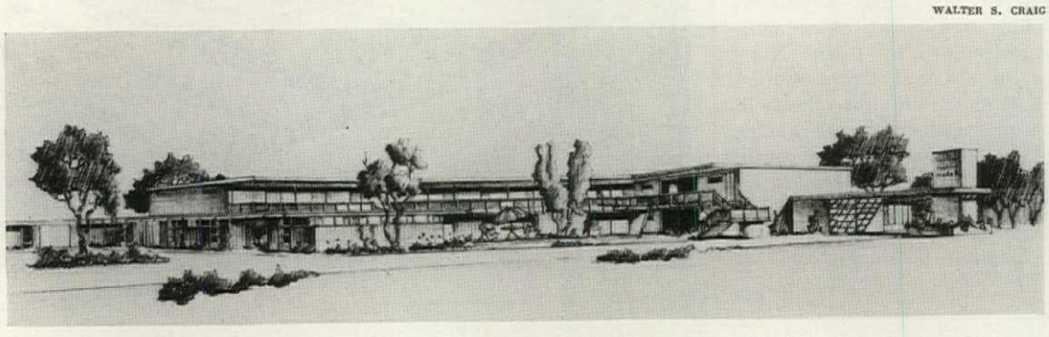
WARNER-MURRAY



GOLD HOTEL

Surrounded by a golf course, marina and country club, the gold-skinned Diplomat Hotel will rise from 200 acres of drained swamp at Hollywood Beach, Fla. Norman Giller & Associates of Miami Beach designed the $20 million resort for Board Chairman Samuel Friedland of Food Fair.

WALTER S. CRAIG

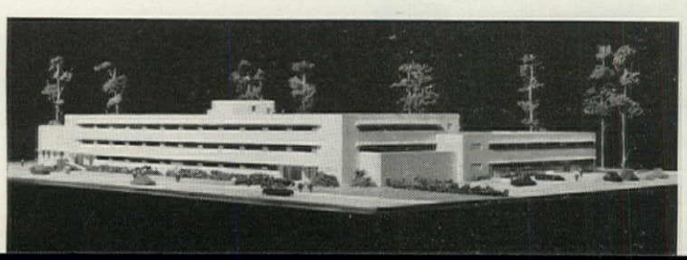


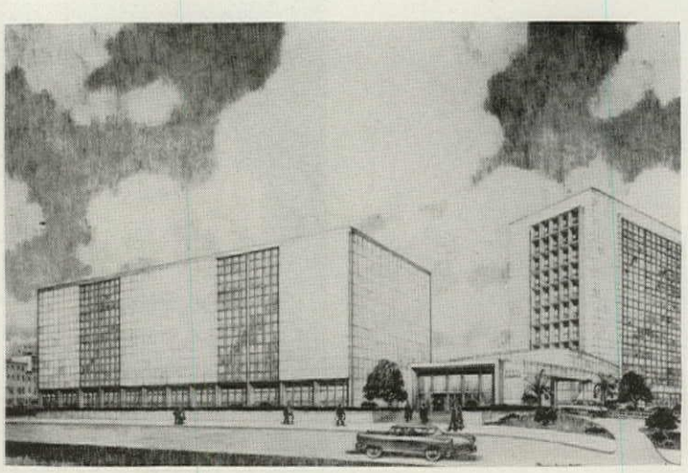
MOTEL WITH A CITY COUSIN

Schimmel Hotel Co., long in the hotel business, will point for business in city and suburb by building motels near the same cities in which it already has hotels. The first of these will be built on a road connecting Lincoln, Neb., and the interstate highway system. The 100-unit motel was designed by the Leo A. Daly Co. of Omaha, the first major motel in Nebraska announced in the wake of the federal highway system. Cost: $750,000, including swimming pool and dining room.

HOUSTON ENGINEERING COLLEGE

With the help of a $5 million gift of oil-producing land from Texas millionaire Hugh Roy Cullen, the University of Houston plans to build a new college of engineering. Named for Cullen, the stone-and-brick building will hold classrooms, labs, offices, a cafeteria and 400-seat auditorium. Architect Alfred C. Finn of Houston has also included a rooftop solar laboratory and a television studio. Facilities are planned for closed circuit or microwave relay telecasting.





NEW ORLEANS CIVIL COURTS BUILDING

Three groups of architects joined in designing the civil courts building, part of the New Orleans Civic Center. The $2 million building adjoins a new City Hall (r) and will have an aluminum, glass and limestone façade. Architects: Favrot, Reed, Mathes & Bergman; Goldstein, Parham & Labouisse; August Perez & Associates, all of New Orleans.



CONCRETE LILY PAD

Rickey's Studio Inn, Palo Alto, will rest on what looks like a giant lily pad of concrete, cantilevered 14′ over a small artificial lake. Architect Ernest J. Kump, Palo Alto, designed the $1 million addition to the original restaurant.



OIL CO. WEST COAST HEADQUARTERS

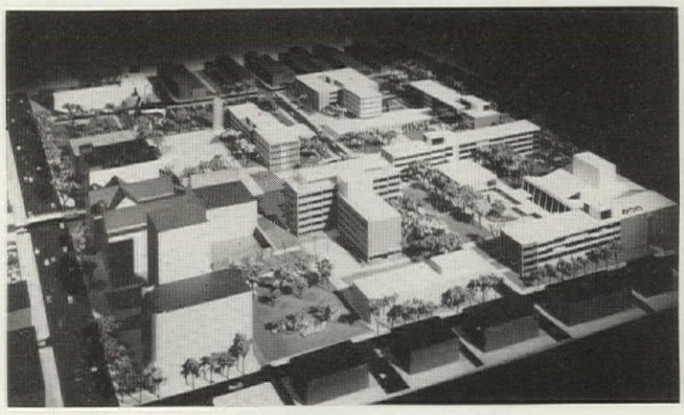
Texas Co. plans to move its West Coast operations into this 12-story office building in 1958. Now under construction in Los Angeles, the headquarters building is steel and reinforced concrete; curtain walls are two-way sliding aluminum sash with ceramic veneer spandrels. A ground-floor tourist bureau will be open to the public. Above will be Texas Co. offices, other tenants. Architect: Welton Becket & Associates.



KANSAS RIBBONS

Kivett & Myers & McCallum of Kansas City designed this million dollar ribbon plant for Hallmark Cards in Lawrence, Kan. Welton Becket & Associates, consulting architects.

CORTLANDT V. D. HUBBARD



PHILADELPHIA CAMPUS EXPANDS

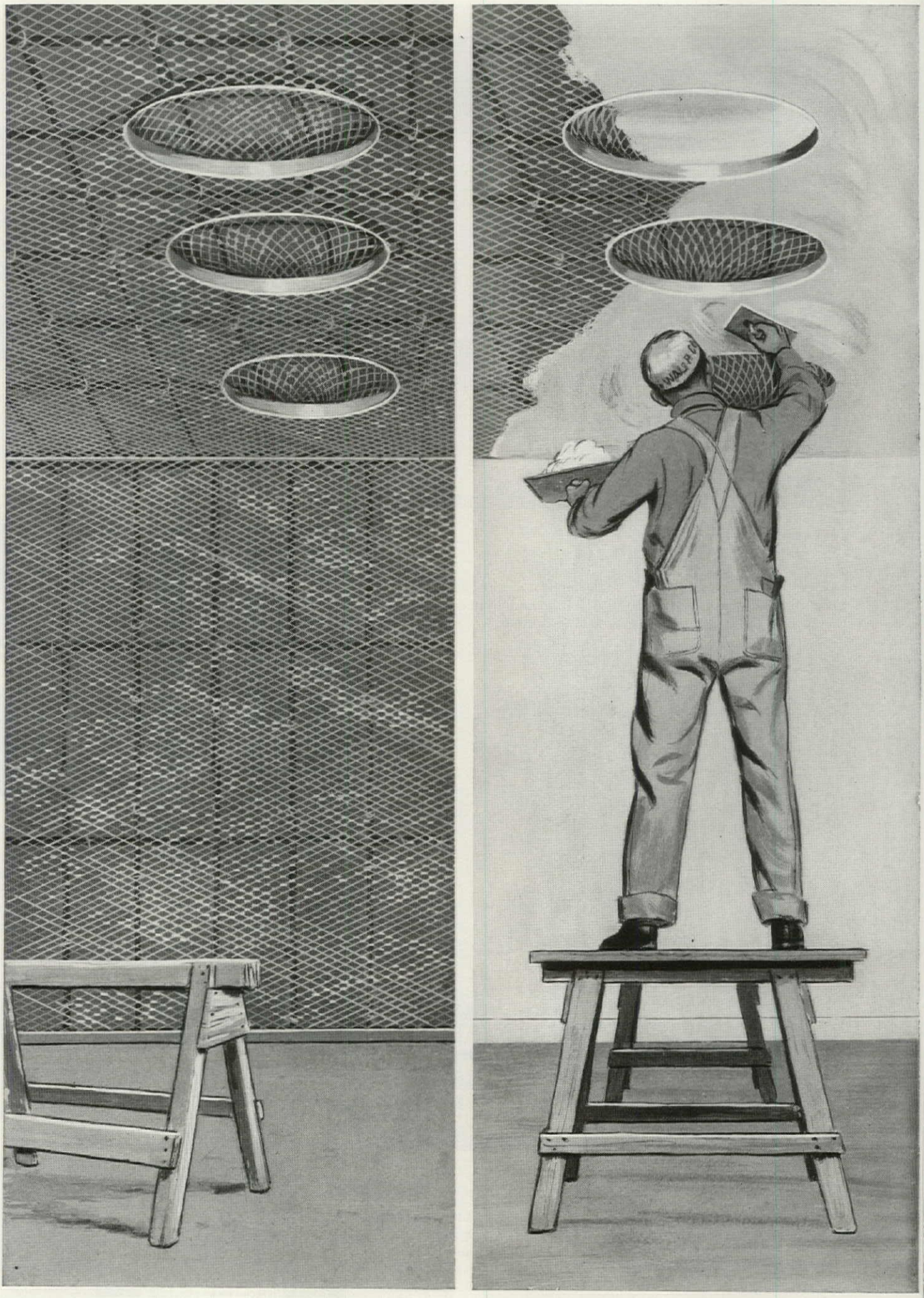
Phase I of Temple University's development program, planned by Nolen & Swinburne of Philadelphia, will cover six city blocks east of the present campus. Model photograph shows school of business (center) with physics, chemistry and biology buildings behind it. Teachers' College is at right.

UNION COOPERATIVES

The first privately constructed middle-income housing to be aided by New York City under the Mitchell-Lama limited-dividend law (AF, June '57) will be two 14-story cooperative apartments. Sponsored by the Amalgamated Meat Cutters & Butcher Workmen, the expected cost is $4 million.

ADOLPH STUDLY







Wheeling Metal Lath molds plaster for beauty, versatility, economy and safety

Architects and builders have a natural ally in Wheeling Metal Lath. For this modern plaster base offers advantages found in no other type of construction.

For one thing, it permits an almost unlimited variety of design. It takes any shape, anywhere, and permits unhampered design freedom. Then, too, it's the strongest, most durable plaster base possible. And it holds plaster with a grip of steel come fire, flood or earthquake. Thousands of sturdy steel keying diamonds see to that.

Consider too the beauty that only Wheeling Metal Lath and plaster can give. Smooth, sleek, crack-free surfaces, surfaces that stay new-looking for years.

From an economical standpoint, Wheeling Metal Lath is unique. For here are savings that can be extended throughout the years. Not only is Wheeling Metal Lath easier to work with, cutting installation costs, but it also means maintenance-free interiors.

Equally important;—the full line of Wheeling Metal Lath and Accessories is immediately available from the Wheeling warehouse. For full details consult our catalog in Sweet's or contact the Wheeling warehouse or sales office nearest you.

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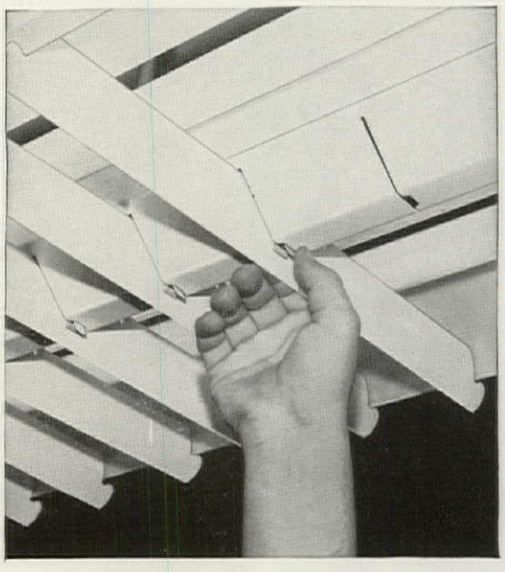
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Dollar value of construction continues to rise, but physical volume is no higher than last year

The dollar volume of new construction in May hit a new high for the month of $4 billion, 11% above April. For the first five months of this year, dollar volume has totaled $17.1 billion, or about 3% higher than the like period of 1956. The monthly BLS-Commerce report now figures that volume last year totaled $46.1 billion (not $44.3 billion as originally reckoned) and that, at May's seasonally adjusted annual rate, 1957 volume would hit $46.9 billion.

The $1.8 billion revision in last year's construction volume figure results largely from an upward adjustment in the value of additions and alterations to private nonfarm housing. BLS-Commerce also rejiggered their highway spending figures, now drop 1956 highway spending by $630 million. (So far this year, highway spending, largely because of the 41,000-mi. federal system, is up 11% over last year.)

As an added fillip to the highway program, a Senate Public Works subcommittee has voted to add 7,000 mi. and $15.4 billion to roads eligible for federal assistance.

It is becoming increasingly apparent that a record volume of spending by public agencies and by private industry for nonresidential building will more than offset the effects of slumping homebuilding. May housing starts tilted upward to an annual rate of 990,000, but the first five months still lagged 15% behind last year. (Private starts are off 17%, while public starts, at much lower volume, are up nearly 82% over last year.)

In dollar terms, the real steam for construction is coming this year from public sources, while private building is just holding its own. (Biggest drops in volume are in residential building, off 7% from the first five months of last year, and in building of stores and restaurants, off 16%.) Public residential building is up 52%, hospital construction up 27%, and public industrial building up by 28%. The total gain of 12% in public construction looks impressive when stacked up against the puny less-than-1% gain in dollar volume of private building for the first five months.

As usual, dollar figures have to come in for some adjustment before being taken as the final word. In physical

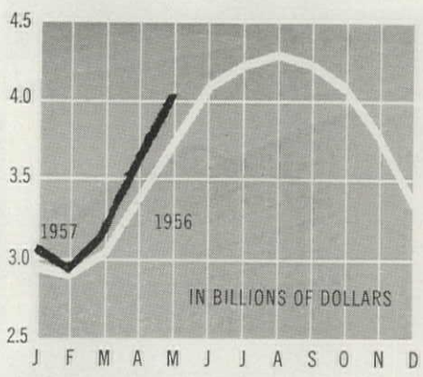
continued on p. 47

SPENDING BY BUILDING TYPES

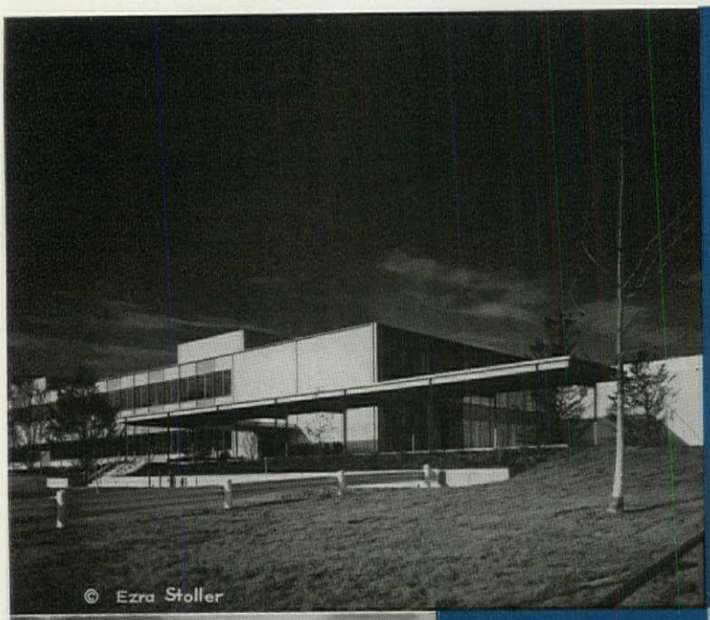
(millions of dollars)

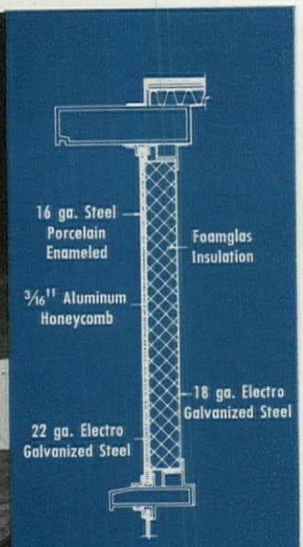
	May '57	First 5 months 1957*	1956	%±
PRIVATE BUILDING				
Residential (nonfarm)	1,405	6,057	6,529	— 7
Nonresidential	747	3,595	3,322	+ 8
Industrial	270	1,349	1,166	+16
Commercial	287	1,340	1,392	— 4
Offices; lofts; warehouses	146	692	617	+12
Stores; restaurants; garages	141	648	775	—16
Religious	68	327	275	+19
Educational	40	203	202	**
Hospital; institutions	40	181	124	+46
Public utilities	493	2,030	1,864	+ 9
***PRIVATE TOTAL	2,803	12,302	12,331	**
PUBLIC BUILDING				
Residential	35	158	104	+52
Nonresidential	387	1,747	1,526	+14
Industrial	43	206	161	+28
Educational	236	1,089	993	+10
Hospital; institutions	33	138	109	+27
Military	105	459	479	— 4
Highways	455	1,440	1,301	+11
Sewer; water	117	527	462	+14
***PUBLIC TOTAL	1,229	4,833	4,312	+12
***GRAND TOTAL	4,032	17,135	16,643	+ 3

* *Revised 1957 totals.*
** *Less than 1%.*
*** *Minor components not shown, so total exceeds sum of parts.*



TOTAL EXPENDITURES for new construction hit $4 billion in May, totaled over $17 billion for the first five months of the year. But, as the table (left) shows, all the dollar gain has come from the public building sector.

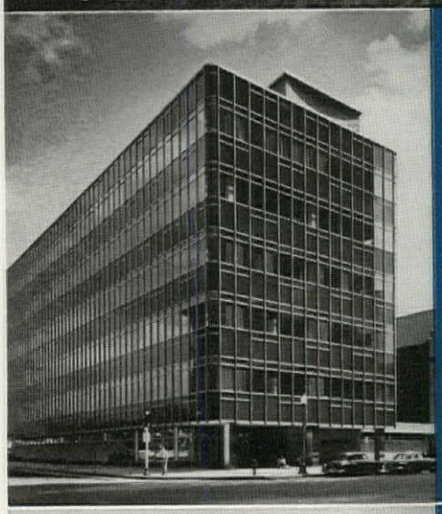


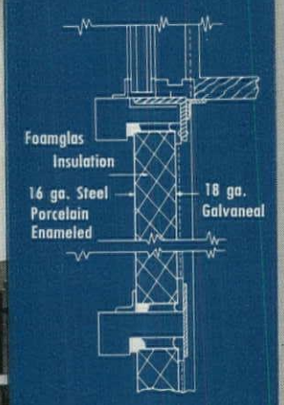


distinctive buildings with handsome panels by ING-RICH

To these and many other curtain wall projects, Porcelpanels by Ing-Rich add the unique advantages of porcelain enamel. Porcelpanels consist of a porcelain enamel face, an insulating core and a metal back-up sheet or pan. The porcelain enamel face provides the freshness of permanent color with a durable, self-cleaning surface that remains attractive for the life of the building.

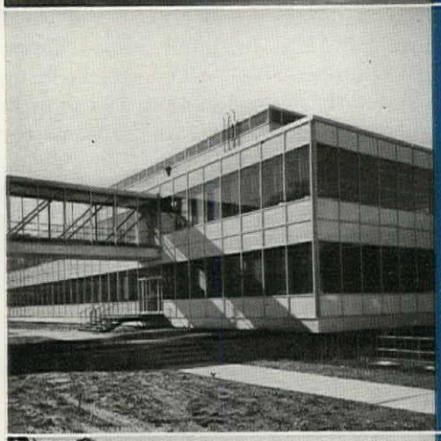
Write for new Bulletin A-57 that presents panel data on seven outstanding curtain wall structures.

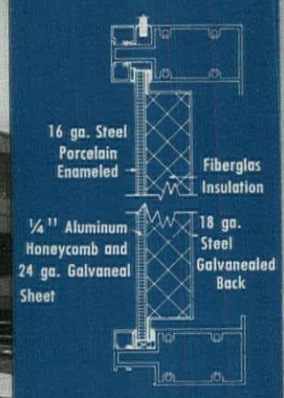




Product Development Laboratory of International Business Machines Corporation, Poughkeepsie, N.Y. *Color:* Gray. *U Factor:* .17. *Panel Weight:* 7 psf. *Architect:* Eliot-Noyes & Associates, New Canaan, Conn. *General Contractors:* Turner Construction Company of New York City and G. D. Campbell Building Company of Poughkeepsie.

Lutheran Brotherhood Building, Minneapolis. *Color:* Blue-green, *U Factor:* .20. *Panel Weight:* 6 psf. *Architect:* Perkins & Will, Chicago. *General Contractor:* Kraus-Anderson, Inc., Minneapolis.





Office and Laboratory Buildings, Geigy Chemical Corporation, Greenburg, N.Y. *Color:* White. *U Factor:* .17. *Panel Weight:* 7 psf. *Architect:* Skidmore, Owings and Merrill, New York City. *General Contractor:* Vermillya Brown, New York City.





International Union of Operating Engineers National Headquarters Building, Washington, D. C. *Color:* Gray. *Panel Weight:* 6½ psf. *Architect Engineers:* Holabird, Root & Burgee, Chicago, Illinois. *Contractors:* The George Hymans Construction Company, Washington, D. C.

PORCELPANELS®

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INGRAM-RICHARDSON MANUFACTURING COMPANY

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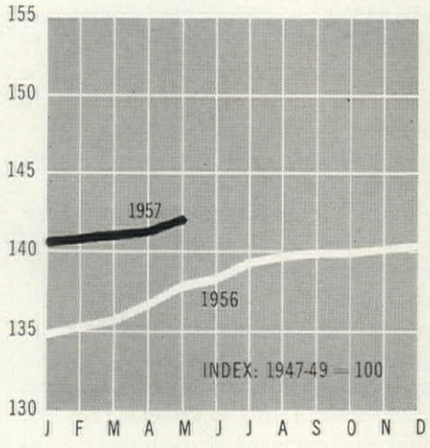
terms, building volume actually is just keeping pace with last year, but is doing no better. According to F. W. Dodge, April contract awards were actually 9% below April, 1956, and nonresidential volume in April was 20% below the previous year. And *Engineering News-Record* reports that heavy construction awards are trailing 20% behind last year.

BUILDING MONEY

Tighter money squeezes municipal borrowers

Last month, the Federal Housing Administration, Fanny Mae, a Corsicana, Tex. school district and the New York Central RR were struggling in the coils of the same problem — tight money. For FHA and Fanny Mae, it meant paying the highest rates on debentures in their history (FHA hiked the interest on its debentures issued to lenders under the default program to 3⅜%; Fanny Mae had to pay 4¼% on a $100 million debenture issue). For the Central and little Corsicana, the story was even starker—both withdrew securities offerings because the price was too steep.

The latest round of exceptional tightness in the two-year-old tight-money squeeze has affected every borrower—and many would-be borrowers—but it has hit the municipal market particularly hard. Aside from the fact that many municipal borrowers, like Corsicana, were unwilling to pay the market price for long-term money, it has added greatly to the cost of municipal construction for those that do pay. New York State Comptroller Arthur Levitt said last month that the rise in interest costs will add $80 million to the estimated $528 million of school construction scheduled for the state's school districts. "The scarcity and high cost of credit is creating an undue hardship," Levitt added.



BUILDING COSTS for nonresidential construction rose 0.8 to 142.0 in May, a new record for the E. H. Boeckh & Assoc. index. So far this year, the Boeckh index has gained 1.3%.

Of course, the money squeeze on construction funds of all sorts is still basically due to the huge volume of building — and borrowing — going on. Public works and nonresidential construction are more than making up for the slump in housing starts (p. 45).

The short-term mortgage credit market has continued at a slow pace, reflecting the lower level of starts. So far this year, the volume of outstanding commercial bank credit to real estate mortgage lenders is off over 20% from the same time last year.

Public housing starts may be slowed, too, by the money pinch. The Public Housing Authority announced that it would not offer any long-term housing authority bonds until after Labor Day "unless there is a very substantial improvement in the market for tax-exempt securities."

Even though the demand for residential mortgage money has slowed, municipalities have more than made up for that slump. In the first five months of 1957, municipalities and states borrowed over $3 billion, indicating another record year for such borrowing despite the inroads of tight money. But for towns like Corsicana, borrowing has become a painful business. In May, $68 million of tax-exempts were pulled off the market because the price was too steep.

Given these high rates, some economists are pondering why towns and states continue to borrow. One answer given by local authorities themselves is that costs of construction are rising faster than costs of borrowing, so it is really cheaper to borrow now than defer for too long. Also, many of the facilities are so badly needed that some states and cities are forced to borrow at almost any rate.

The plight of the municipal borrower isn't going unnoticed. Congress is considering okaying a tax-exempt mutual fund, designed to tap a vast market of middle-income investors into what has traditionally been a market of high-income coupon-clippers. But early last month, municipal officials themselves stressed more direct measures to insure an adequate flow of construction capital: do away with unrealistic interest rate limits that have hampered so many potential borrowers recently, keep an even beadier eye on costs of construction, and don't build except when absolutely necessary.

BUILDING MATERIALS

Materials price standstill masks wide movements

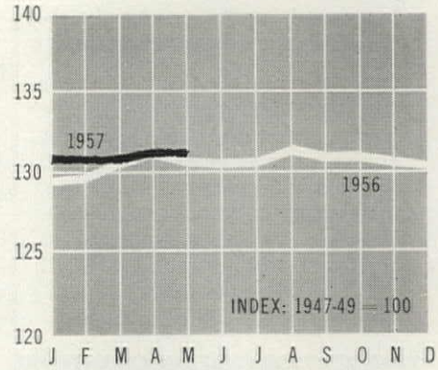
The BLS wholesale price index of building materials prices remained suspended at 130.7 in May, the same as its April mark. But behind its seeming inactivity lies a countering of price movements, each pulling in opposite directions.

Downward pressure was being provided by the renewed slump in prices of lumber and plumbing equipment. The lumber and wood products index tailed off another fraction, and is now 6.5% below its May, '56 mark. Now, Far West lumbermen despair of any price pickup during the rest of the year, as even the usual seasonal upturn failed to materialize. Another harsh note on the lumber scene is the probable 5¢ per hour wage boost for lumber workers, which will probably be retroactive to June 1.

Plumbing equipment prices registered the steepest month-to-month dip of any materials group; they currently stand 4.6% below their year-ago figure.

Biggest price gain for May was racked up by prepared asphalt roofing, now up 12.4% over a year ago. Structural shapes steadied, but are still 16.4% higher than May, '56. Plate glass and structural clay products are up 6% and 6.1% respectively over a year ago, but showed no movement from April to May of this year.

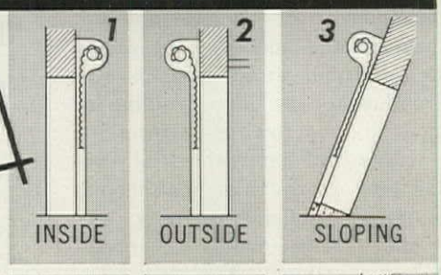
continued on p. 48



BUILDING MATERIALS PRICES steadied at 130.7 in May, the same as the April figure for the BLS index of average wholesale prices. The index stood just about 1% below its May, '56 mark, but last year the May figure had dipped 0.5. Lumber and plumbing equipment showed the biggest price drops in May.

HIGH WIDE LARGE SMALL

Quick Guide to Kinnear Door Versatility

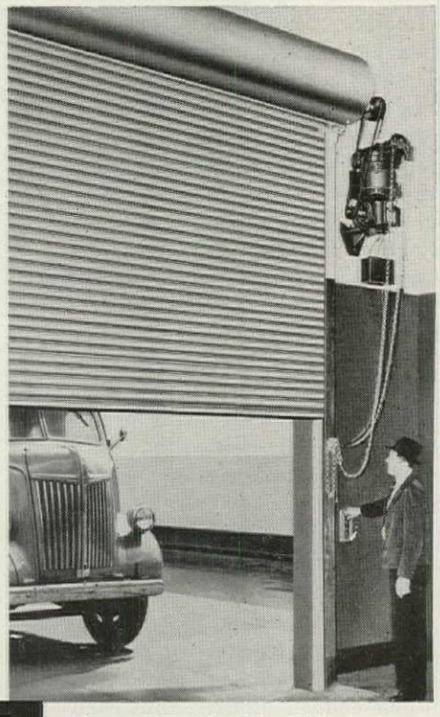


Kinnear Steel Rolling Doors

Whether your door needs are standard or special, Kinnear Rolling Doors offer you more efficiency *more different ways* than any other type of door. For example, the coiling upward action of Kinnear's interlocking steel curtain can be applied:

1. Mounted on inside wall; coils overhead.
2. On outside wall; leaves ceiling clear.
3. Sloping doorway (chutes, hoppers, etc.).
4. Hood under lintel or concealed in wall.
5. Hood above lintel or on top of wall.
6. Hood above roof or upper floor level.
7. Inverted mounting (coil below door sill).
8. Kinnear Rolling Doors (automatic fire type) on both sides of wall for maximum fire protection.
9. Horizontal mounting (openings for observatory, ventilator or similar eqpt.).

In *every* installation, Kinnear Rolling Doors open *out of the way* . . . need no usable space for either storage or operation . . . give extra protection against fire, theft, wind, weather or vandalism. Extra heavy galvanizing assures corrosion-free durability. Built any size. Motor or manual operation. Write for full information!



KINNEAR ROLLING DOORS
Saving Ways in Doorways

The KINNEAR Mfg. Co.
FACTORIES:
1640-60 Fields Avenue, Columbus 16, Ohio
1742 Yosemite Ave., San Francisco 24, Calif.
Offices and Agents in All Principal Cities

Prepared paint prices tipped upward slightly in May and show a 4.7% rise since last year. Early last month, du Pont announced it was upping its prices of household and maintenance paints an average of 3.5% because of "higher raw materials costs, wage rates and container prices."

BUSINESS

A mild recession and a record spending spree

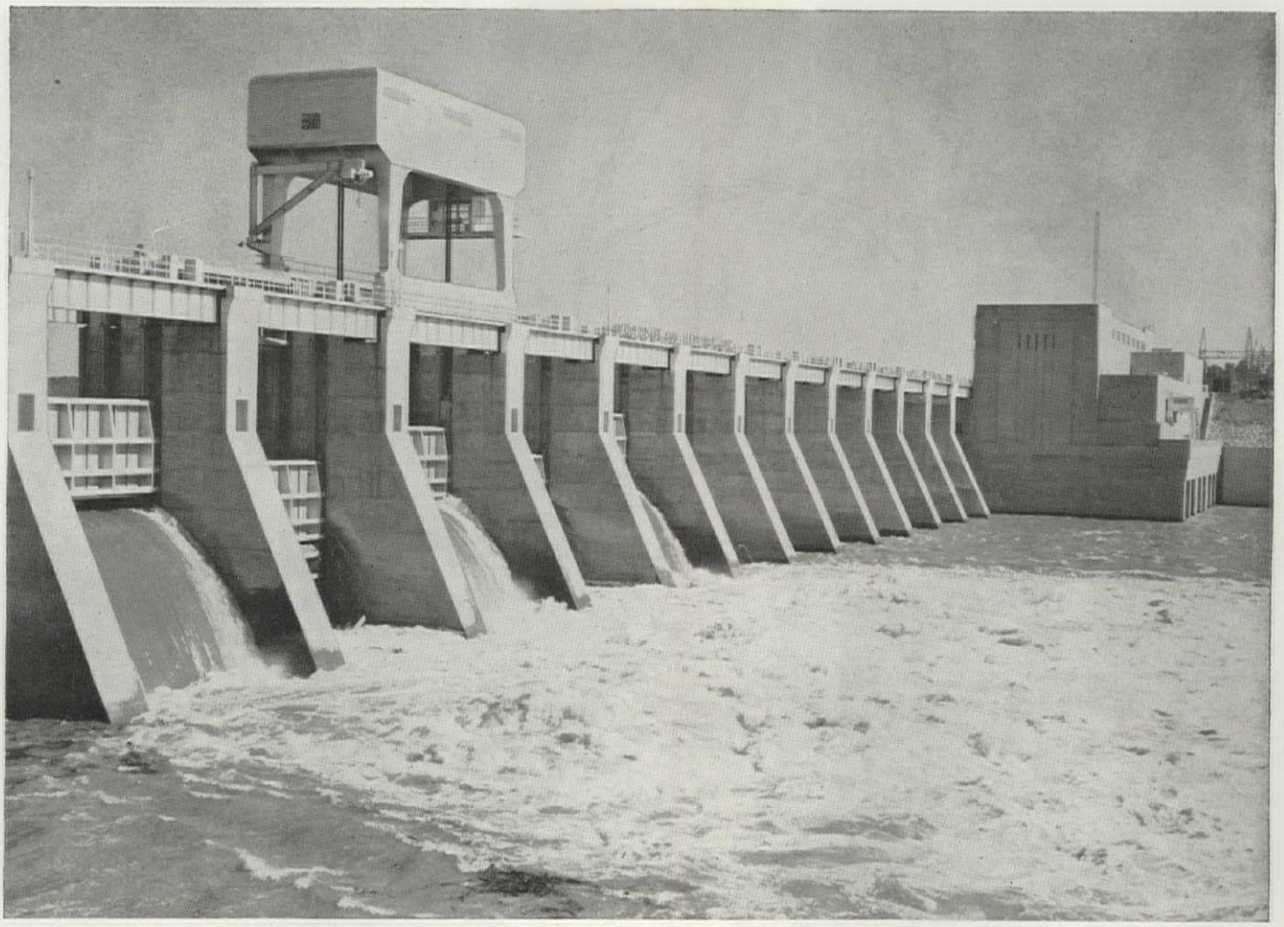
Two sets of statistical evidence presented diverse economic trends for construction and for all business last month. First, the Commerce and Labor Depts. released their monthly employment figures, which underlined something economists had been grumbling about for some weeks—definite signs of what the report termed "a mild recession" in manufacturing.

For the fifth successive month, the number of factory production workers declined. And, even more poignant, the average weekly hours worked slipped to its lowest mark in nearly three years.

Offsetting this set of figures, however, were some that made happier reading. The Dept. of Commerce and the Securities & Exchange Commission estimate that spending for new plant and equipment in the third quarter will hit an annual rate of $37.9 billion. This compares with a second quarter rate of $37.3 billion and a year-ago rate of $35.9 billion.

Expenditures for plant and equipment programmed for the first nine months of this year will be about 9% above 1956 according to Commerce-SEC, but half of that gain is due to price increases. For the year as a whole, expenditures should be up around 6½% on an adjusted basis. (Last year, plant and equipment spending was up 22½% over 1955.)

Almost all major industrial groups are expected to show gains in spending over the first nine months of 1956, with public utilities (27%) and railroads (22%) showing the biggest year-to-year jumps. Manufacturing companies will spend 13% more in the first nine months of this year than last, but commercial companies' spending will be off by around 5%. The latter indicates the possibility of further drops in commercial building, already off 4% from 1956 in total dollar volume.



Florida's Jim Woodruff Dam...

Built 100% of Ideal Cement Concrete

...Creates a New Lake, a New Waterway, and a New Source of Electric Power

The recently completed Jim Woodruff Dam at Chattahoochee, Florida, is a prime example of the way concrete is bringing new development potential and industrial opportunity to the South. It spans the Apalachicola River just below the confluence of the Flint and Chattahoochee Rivers, and provides a new lake and recreation area, a new waterway, and 30,000 kilowatts of new power.

Contractors for this highly useful project were Perini, Walsh, Mills, and Blythe Brothers construction companies, a joint venture sponsored by B. Perini and Sons, Framingham, Massachusetts.

All the cement for this job was manufactured at Ideal's strategically located plant at Mobile, Alabama. Ideal's ability to deliver cement continuously from the big production of the Mobile plant guaranteed maintenance of construction schedules even through periods of the most critical cement shortage.

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Many architects today are making it *every inch a Barrett Roof* by specifying Barrett Roof Insulation topped by a "SPECIFICATION" Roof. That's putting Barrett Roofing know-how to work from the deck up. It's one way you can be positive about your roofing specifications. BARRETT DIVISION, Allied Chemical & Dye Corporation, 40 Rector St., New York 6, N. Y.

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Smooth, rich appearance of Barrett Insulating Ceiling Tile creates pleasant atmosphere in plants and offices. White surface improves lighting.

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Almost Maintenance-Free—Aluminum Designs Blend with Modern Planning

Now . . . magnificent doors of lifetime aluminum, built to your own specifications, can add functional beauty to the buildings that take shape from your plans! Constructed in the same time-saving, money-saving way* as the new Panoramic Door that has taken industry by storm, The "OVERHEAD DOOR" in lifetime aluminum has narrower stiles and rails, yet is far stronger than ever before. These doors weigh approximately the same as wood doors. Slightly greater initial cost is offset by the savings in maintenance! The gleaming anodized finish, inside and out, is permanent—never needs paint. Keyway construction permits easy replacement of components if damaged. For details of construction, sizes, special features, see pages 38-39, Sweet's Architectural Catalog $\frac{16i}{Ov}$ or write us for 56-page hard-bound catalog with traceable drawings.

**Patents Pending*

THE "OVERHEAD DOOR" TRADE MARK

OVERHEAD DOOR CORPORATION, Hartford City, Indiana

Manufacturing Divisions: Hillside, N. J.; Nashua, N. H.; Cortland, N. Y.; Lewistown, Pennsylvania; Dallas, Texas; Portland, Oregon.

For 36 Years . . . Architects Have Specified The "OVERHEAD DOOR" More Than Any Other Brand!

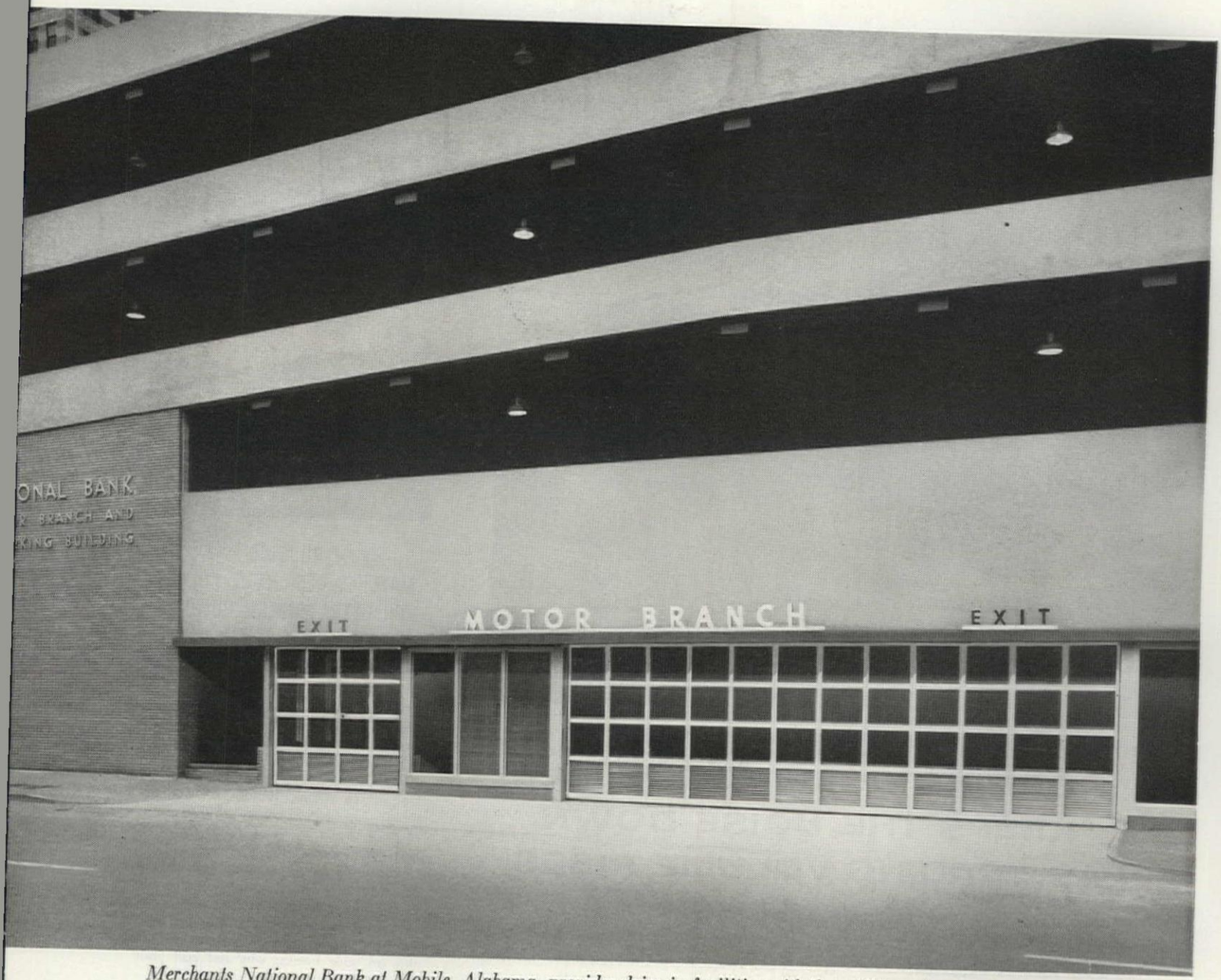


New PANORAMIC Aluminum Door—handsome, maintenance-free, weathertight—blends beautifully with modern design—was an instant hit with the oil industry. Gives attendants full vision of traffic, parking areas and pumps.

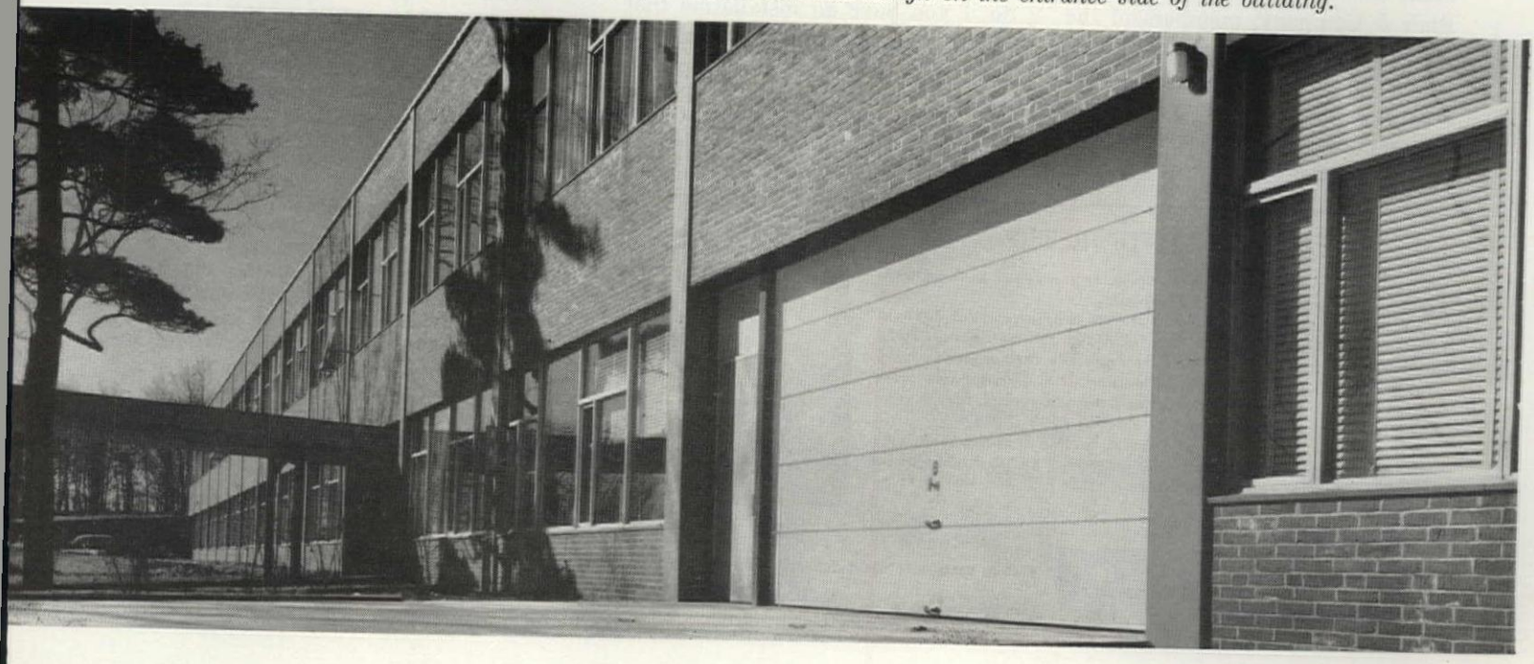
1957 A. I. A. Prize-Winning Design—Middlesex Mutual Trust Building at Waltham, Massachusetts, uses this special flush aluminum "OVERHEAD DOOR." Door shown opens into the receiving room of the insurance company's office building. Another door is in the basement garage.

Architectural $\frac{16i}{Ov}$

© 1957, O. D. C.



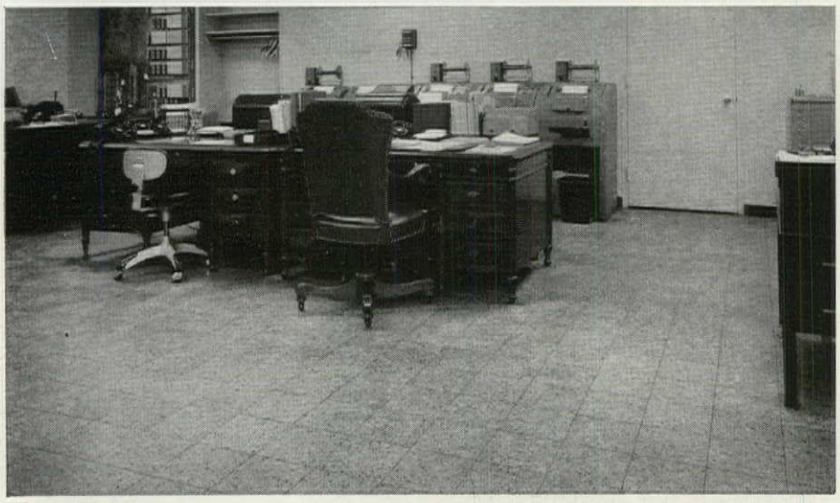
*Merchants National Bank at Mobile, Alabama, provides drive-in facilities with the addition of a new Motor Branch and Parking Building. Two aluminum "*Overhead Doors,*" with bottom sections louvered to permit escape of exhaust fumes, give an attractive "store front" appearance to the building. The larger door, 26'9" wide, is matched by a door of the same size and design on the entrance side of the building.*



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fabulous floors by Robbins



Steinhardt and Thompson, Architects; Flooring Installation—William Gold.

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People move fast and frequently when "buy" and "sell" orders begin to flow in a stockbroker's trading area. And there's plenty of noise—

To muffle the sounds of busy feet, Robbins Cork Floor Tile was specially chosen for this trading area at Blair & Company, members of the New York Stock Exchange. This tile, which is made of finest imported cork and compressed to a high density, reduces the noise level substantially—to a degree much lower than is possible with other hard-surface floorings. Furthermore, it has a natural toughness that ensures lasting wear in heavy-traffic installations.

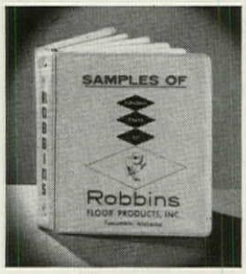
Robbins Cork Floor Tiles come in soft, mellow tones that enable you to design distinctive, beautiful floors. So if you have an installation that requires lustrous appearance, as well as quiet comfort underfoot, specify Robbins Cork Floor Tile. The cost, including installation, is lower than that of many luxury floorings.

FREE! NEW SAMPLE TILEBOOK

Where can you find the *exact* floor tile color you need? Look here—in Robbins' new Architect's Sample Tilebook!

Just flip through the pages. You'll see the precise colors of Robbins' fabulous vinyl and rubber floor tiles, both solid and marbleized. You'll also see samples of Robbins' exclusive Patio Tile for outdoor installations and samples of Robbins Vinyl Matting. It also contains a folder which illustrates the complete Robbins line, and typical specification sheets to make ordering easier.

Write for this handy, compact Robbins Sample Tilebook today. It's light, easy to carry around and refer to—and it fits your office bookshelf! For your free copy, write: Robbins Floor Products, Inc., Tuscumbia, Alabama.





ROBBINS MATCHES DESIGNERS' COLORS FOR ULTRA-MODERN BUILDING

New York's newest building, the C.I.T. Financial Corporation's ultra-modern black granite and stainless steel structure, will feature three unusual colors of rubber Terra-Tile—which Robbins prepared specially to match the interior designer's specifications. The colors—driftwood, sand, taupe—were chosen by Eleanor Le Maire, famous interior designer. The tile will cover 125,000 sq. ft. of floor space on seven floors. Installation—W. Gold.

Robbins' ability to match special colors, and to produce uniform-quality tile in quantity is a major reason why architects and designers prefer to work with Robbins. If you have a custom job like this on your books, why not call your nearest Robbins distributor today?

DESIGNERS CHOOSE ROBBINS FLOOR TILE FOR NEW SUBURBAN MEN'S STORE

D. C. O'Connell Associates, Store Designers, had many specific reasons for choosing Robbins vinyl floor tile for a 15,000 sq. ft. installation in the new John David men's store at White Plains, New York.

The tile they chose, Robbins' fabulous Lifetime Vinyl Tile #178, is light in color, refreshing and reflective—perfect for a suburban men's store. Installed by William Gold, it lends itself to the store's luxurious but casual atmosphere, permits soft spotlighting of merchandise. Then, too, this decorator tile has a lustre that lasts and lasts with minimum care. It's also highly resistant to scuffing and indentation, extremely durable and long wearing—ideal qualities for every area where traffic is heavy.

ARCHITECTS: Like to know more about Robbins' fabulous tiles? See Sweet's or write us for complete details.



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helps reduce 4 o'clock drag!



When there's work to be done, and mother's "done in", children can grate on nerves. But you can come to the rescue—by specifying WRIGHT flooring. Completely comfortable underfoot . . . wonderfully sound-softening, WRIGHT flooring helps reduce 4 o'clock "drag" in any home. WRIGHT colors and rich-looking patterns, its unmatched ease of maintenance have instant appeal for homemakers. WRIGHT is the perfect choice in flooring for every home . . . for every project. Consider WRIGHT next time you specify flooring.

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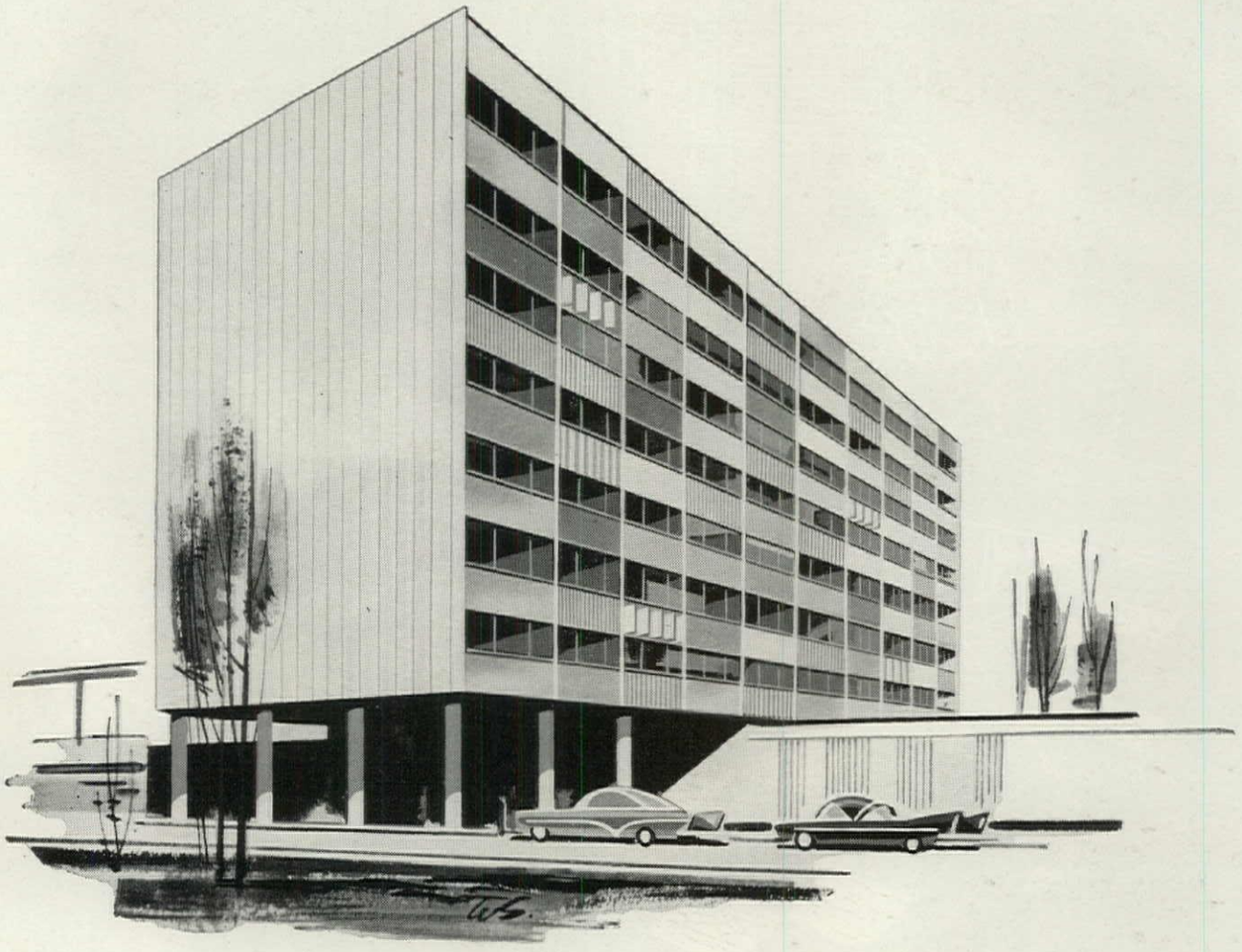
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Buildings constructed and decorated with Stainless Steel are cleaner, more attractive places to work and live. When you're planning a building . . . design it, improve it and protect it with McLOUTH STAINLESS STEEL.

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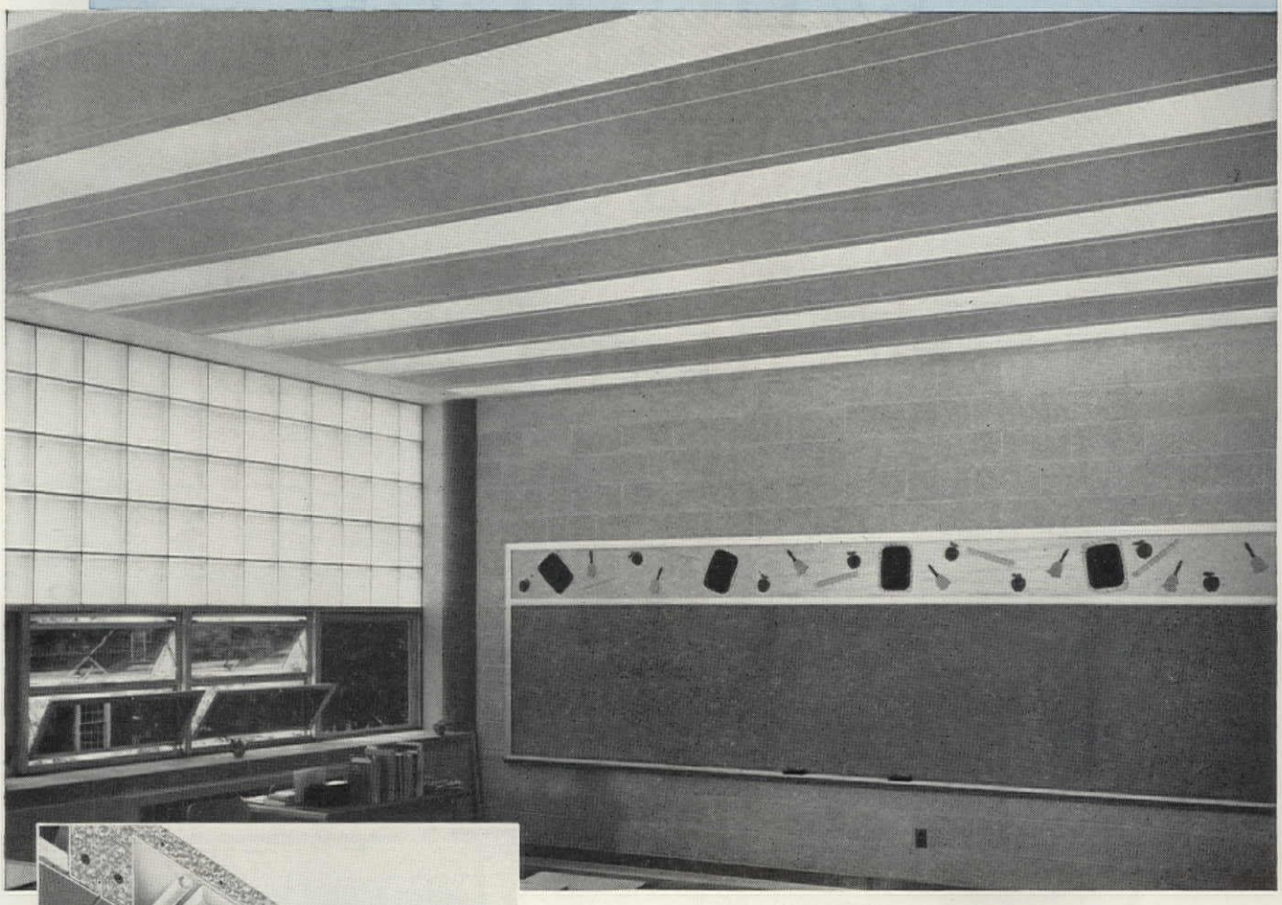
HIGH QUALITY SHEET AND STRIP

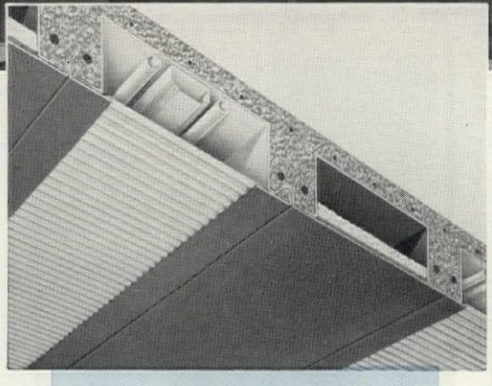
for architecture

McLOUTH STEEL CORPORATION DETROIT, MICHIGAN

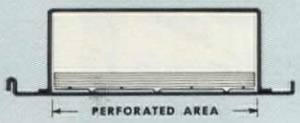
MANUFACTURERS OF STAINLESS AND CARBON STEELS

ACOUSTICAL and TROFFER FORMS

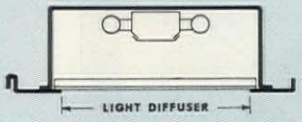




MAHON
ACOUSTICAL and TROFFER FORMS



SECTION M1A (Acoustical)



SECTION M1T (Troffer)

Above is a typical Classroom in the Eugenia Mettatal School, Detroit. It is One of 50 Rooms—including the Auditorium—with Mahon Acoustical-Troffer Ceilings. Shreve, Walker & Associates, Inc., Architects. Alfred A. Smith, Inc., Gen. Contractors.

. . . for Acoustical Ceilings with Recessed Lighting!

Mahon Acoustical and Troffer Forms provide an effective acoustical ceiling with recessed lighting as well as serving as the permanent forms for concrete joist and slab construction of floors and roofs. These are long span units which are integrated with and supported by conventional concrete beams at each end. Only a minimum of temporary shoring is required at mid-span during pouring and curing of concrete. This is permanent, fireproof construction which has a broad application in modern buildings . . . it is used extensively for auditoriums, school classrooms, and in other rooms where an acoustical ceiling with recessed lighting is desirable. Mahon Troffer Sections are also available for use with Mahon M-Deck Sections to provide a combined roof and acoustical ceiling with recessed lighting. In this arrangement the long span M-Deck serves as the structural unit, the interior finish material and the acoustical treatment—all in one package. Purlins are eliminated . . . structural M-Deck Sections span from wall-to-wall or from truss-to-truss. Some of these newer Mahon Sections do not appear in the current Sweet's Files. Why not have a Mahon sales engineer call and bring you up to date on Mahon products now available for Floor, Roof and Combined Roof-Ceiling Construction?

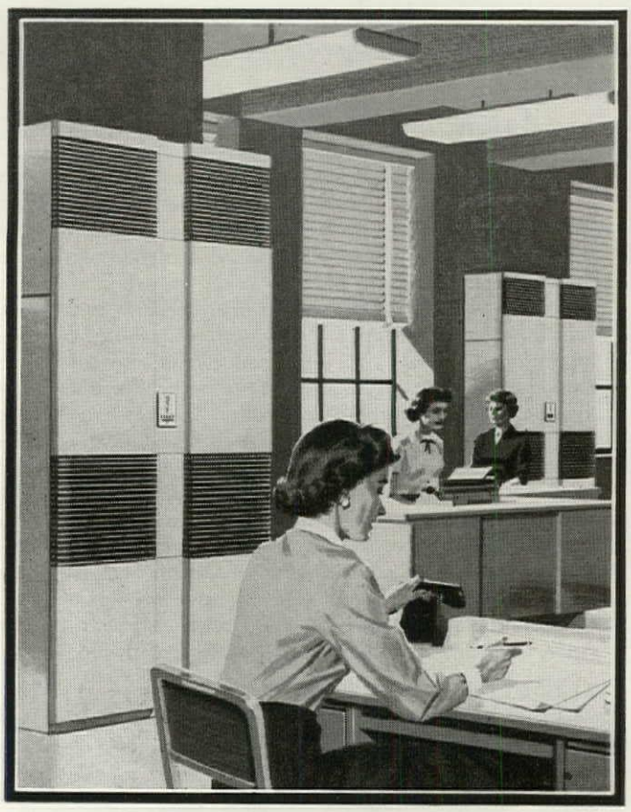
THE R. C. MAHON COMPANY • Detroit 34, Michigan

Sales-Engineering Offices in Detroit, New York and Chicago • Representatives in Principal Cities

Manufacturers of Acoustical and Troffer Ceiling Forms; Steel Roof Deck and Long Span Acoustical M-Decks; Electrified M-Floors; Insulated Metal Curtain Walls; Underwriters' Rated Metalclad Fire Walls; Rolling Steel Doors, Grilles and Underwriters' Labeled Automatic Rolling Steel Fire Doors and Fire Shutters.

MAHON

CARRIER INTRODUCES NEW 10-hp AND 15-hp AIR-COOLED WEATHERMAKERS



FOR OFFICES. Carrier air-cooled Weathermakers can be installed singly or in multiples, as shown here. With a choice of four different sizes, 5, 7½, 10 or 15 hp, you can easily meet the exact requirements of any office.



FOR STORES. Flexibility of design is one of the outstanding features of Carrier's line of air-cooled Weathermakers. You can install them with ductwork, or with a discharge plenum as shown in this drugstore installation.

Now you can air condition the big jobs without water with these new additions to the Carrier self-contained line

You know how water shortages, restrictions and costs have increased the demand for air-cooled air conditioners. To meet this demand, Carrier has added new 10 and 15 hp models to its line of air-cooled Weathermakers*. So you now have four Weathermakers to choose from in designing waterless air conditioning systems for commercial and industrial buildings of any size.

Working with 5, 7½, 10 and 15 hp Weathermakers, you can match the right unit with various heat loads in different parts of a building. This design flexibility results in an air conditioning system sized to do the most efficient job. And it's a system that costs less, too. No water piping or cooling tower to install. No water bills. What's more, water shortages cannot hamper the system's operation during the cooling season!

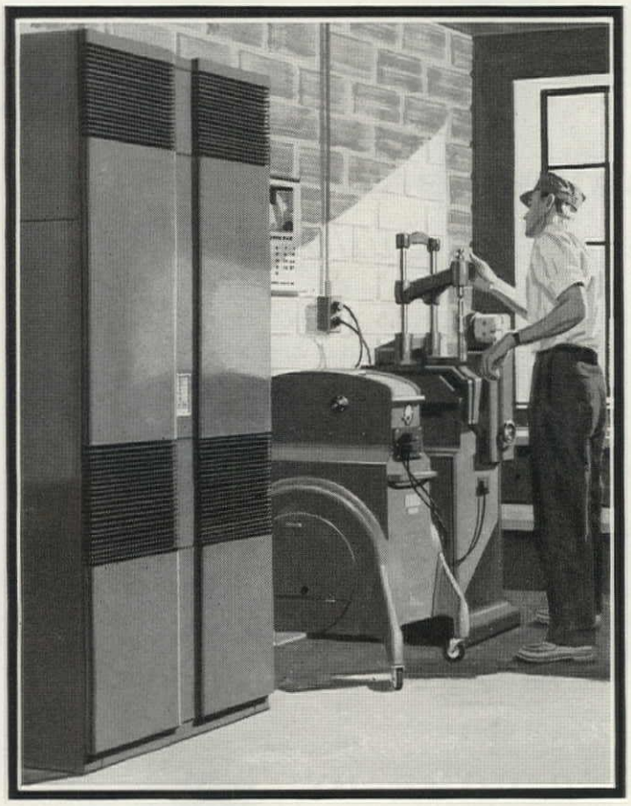
The air-cooled condensers that make this modern, waterless air conditioning possible can be installed outdoors on the roof, a parapet or at ground level. Indoors they can be floor mounted or hung from the ceiling in a storage area with short ducts connecting them to outside air.

The entire Carrier air-cooled Weathermaker line has been designed from the base pan up as air-cooled equipment to deliver rated capacity even when summer temperatures are at their peak. There's no sharp drop-off in performance when the going gets tough.

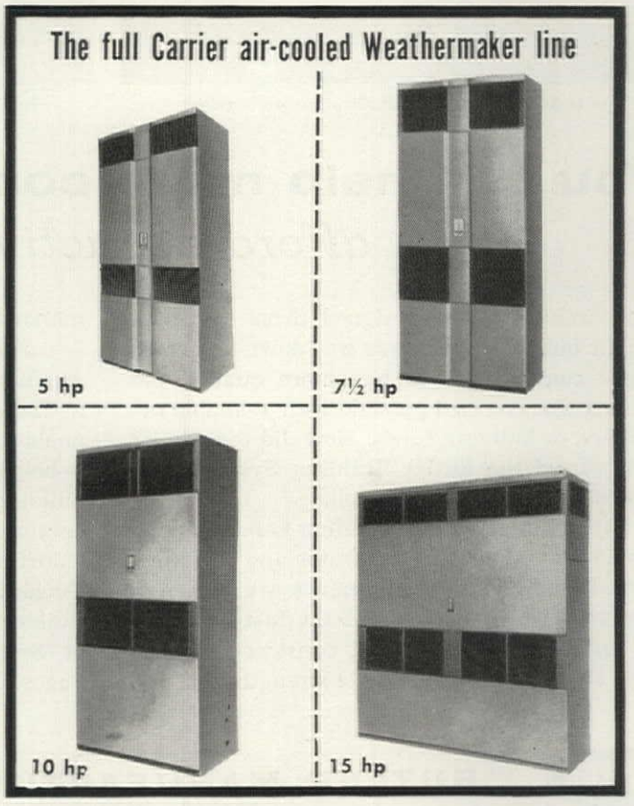
Like to know more about Carrier air-cooled Weathermakers? Your Carrier dealer will be glad to discuss them with you. Call him—you'll find his name in your Classified Telephone Directory. Carrier Corporation, Syracuse, New York.

BETTER AIR CONDITIONING FOR EVERYBODY EVERYWHERE

Carrier

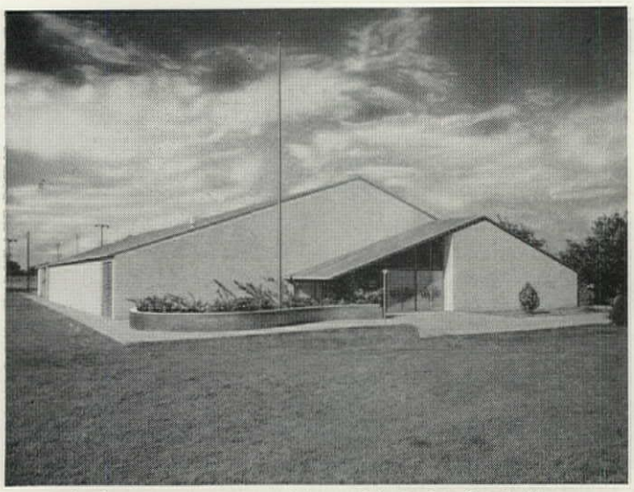


FOR INDUSTRY. Carrier's new larger size air-cooled Weathermakers have the capacity to handle high heat loads in industrial plants. Depending on requirements, you can use one or several to air condition a given area.



SPECIALLY DESIGNED. All Carrier air-cooled Weathermakers were designed as waterless air conditioners. This means they deliver their rated capacity efficiently and economically, even at peak summer temperatures.

*Reg. U.S. Pat. Off.



School gym in Pima County, Arizona. Scholer & Fuller, Architects



Church in Midland, Michigan. St. Clair Pardee, Architect



School gym in Saranac, Michigan. St. Clair Pardee, Architect



Fair Building in Abilene, Texas. Tucker & Lindberg, Architects

You can help more communities

afford attractive public buildings

The architects who designed these attractive public buildings kept costs way down—enabled these communities to buy more quality and beauty than seemed possible with available tax dollars, or building funds. How did they do it? They used the Butler Building System—the lowest cost way to build well.

Every Butler System building is individually styled around a rigid steel frame and a lifetime metal roof. These components are pre-engineered, precision-fabricated for fast assembly—cut weeks to months off construction time. The strong steel frame adds strength and permanence—spans interiors up to 120 feet wide—carries the building load—permits inexpensive exterior curtain walls.

The economy of the Butler Building System enables you to serve a broader range of clients—helps you bring beautiful, architect-designed buildings within the reach of more and more communities. For the full story, ask to see the colorful sound-slide film, "The Community Decides to Build." Call your Butler Builder listed under "Buildings" or "Steel Buildings" in the Yellow Pages. Or write direct.

see our catalog in Sweet's or write for copy

BUTLER STEEL PRODUCTS

BUTLER MANUFACTURING COMPANY

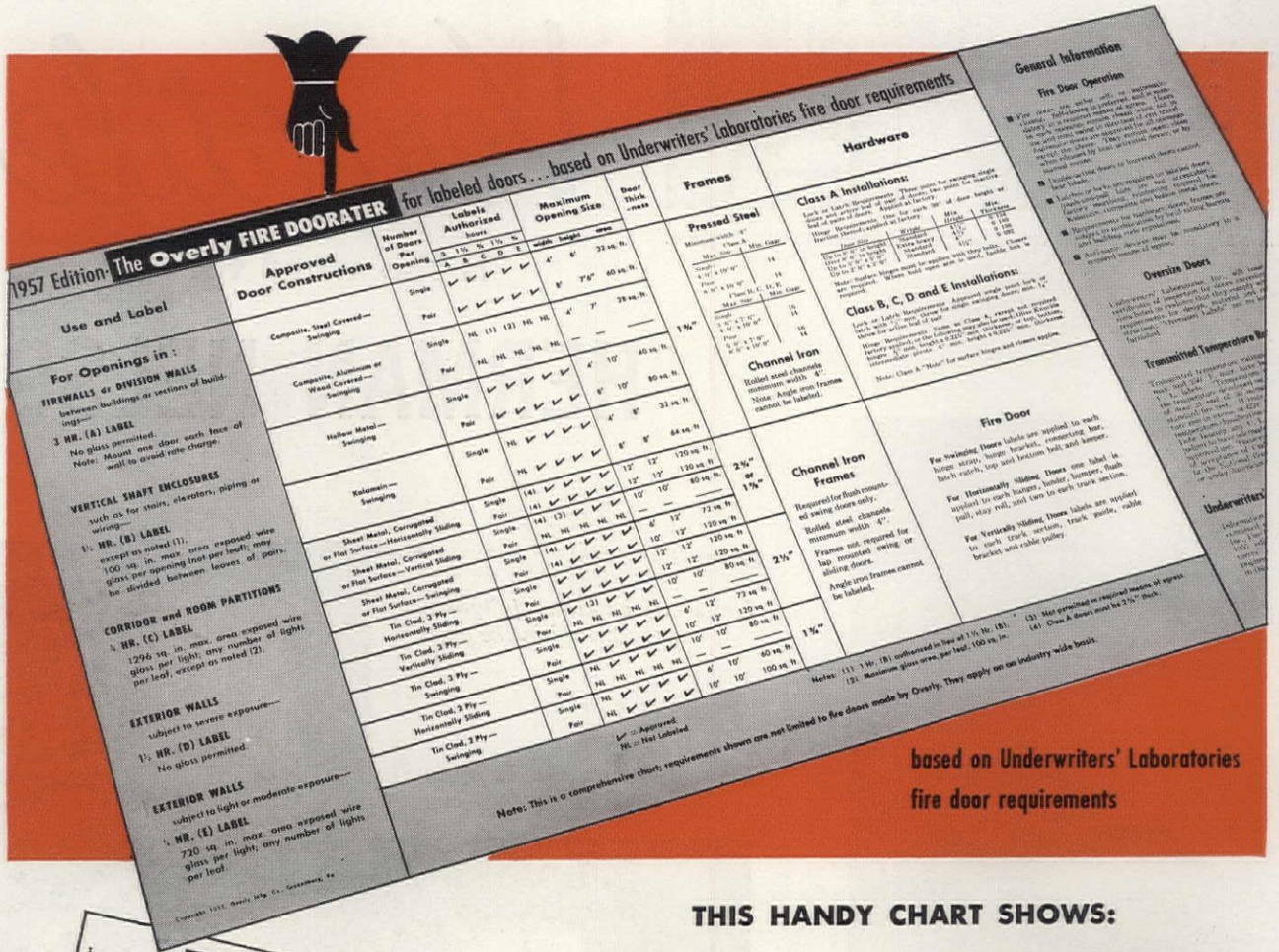
7336 East 13th Street, Kansas City 26, Missouri

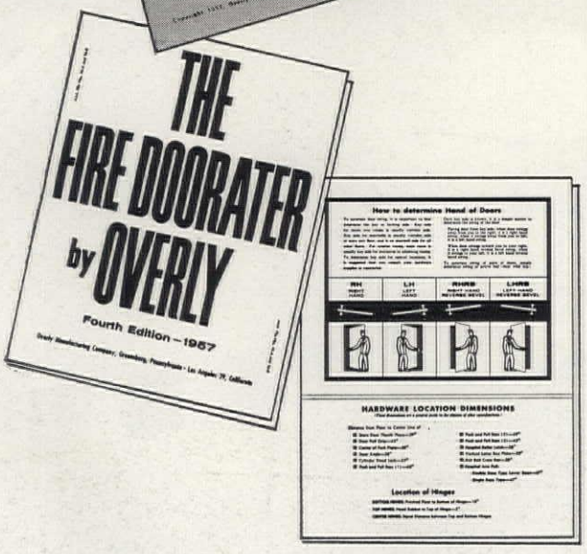
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By Architectural Demand!

The NEW 1957 FIRE DOORATER by Overly is here! Fourth Edition





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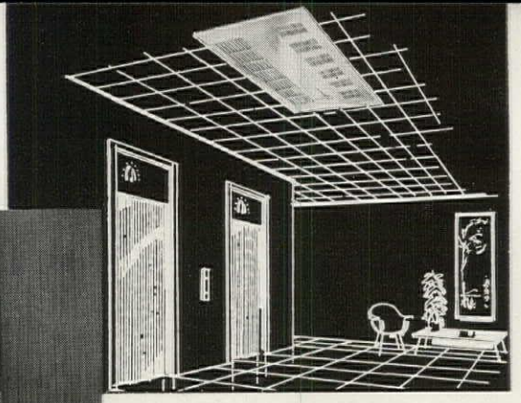
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- **Data on Transmitted Temperature Ratings**
- **How to Determine Hand of Doors**
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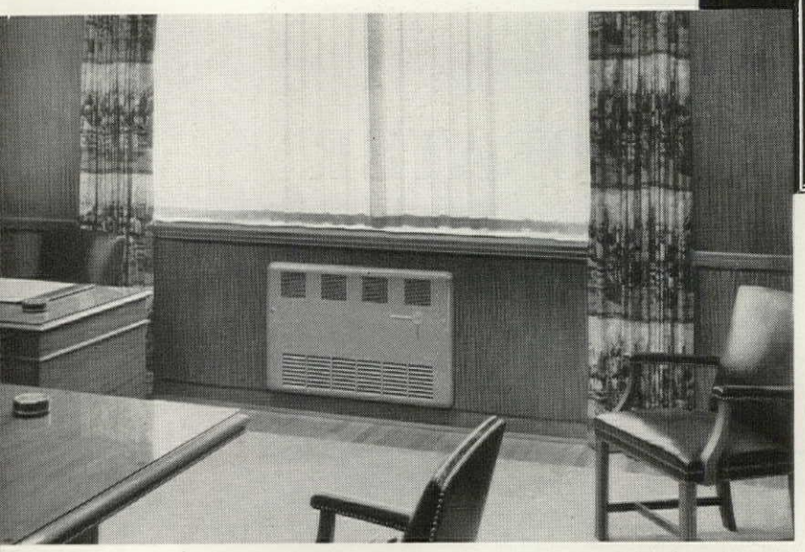
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Space problem? Try a recessed ceiling installation.

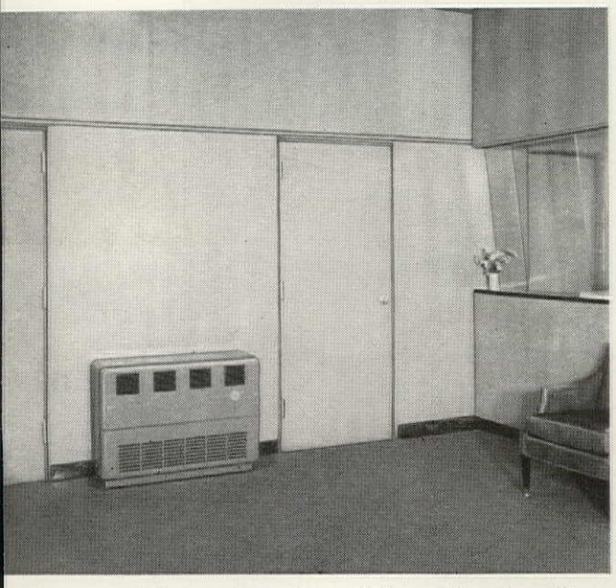


Rich style accent plus heating efficiency—executive office.

Versatile

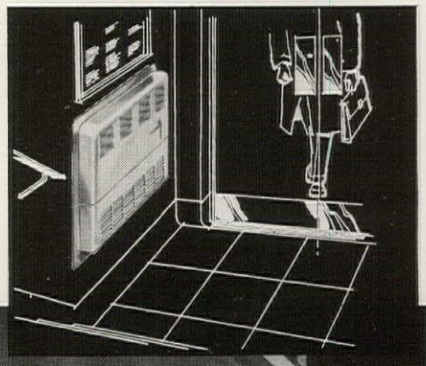
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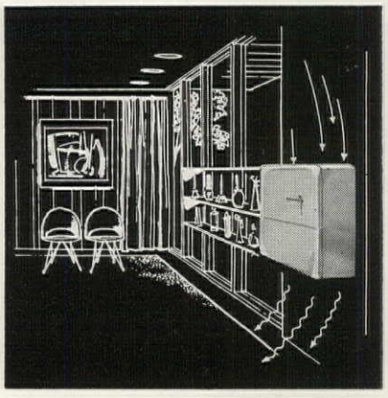


Efficient, silent, beautiful—perfect for offices.

Units can be either fully—or semi-recessed in the wall.



Stairway space utilized in office building.

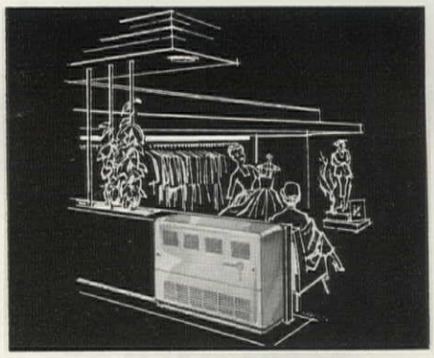


Cold floors? Not with this inverted Console Heater installation.





Warm air where you want it—especially in churches and assembly rooms.



Adds smart beauty as an attractive room divider.

...CONSOLE HEATERS

beauty, performance and variety of arrangements offered by no other cabinet style heater

Just look at a few of the smart new arrangements possible when you plan with the Herman Nelson Console Heater in mind. Place these attractive units free-standing, semi-recessed or fully recessed on the floor. Use them as room dividers. Hang them from the wall. Suspend them from the ceiling. There is no limit on your design ideas!

Here, in a compact, single source of heated air for both commercial and institutional applications, you offer graceful beauty combined with quiet, dependable performance. Proved efficient heating "package" consists of hot water or steam coils, fan assembly and filters. A choice of colors, too! Get ALL the facts now on the beautiful Herman Nelson Console Heater. Write for Bulletin 727A.

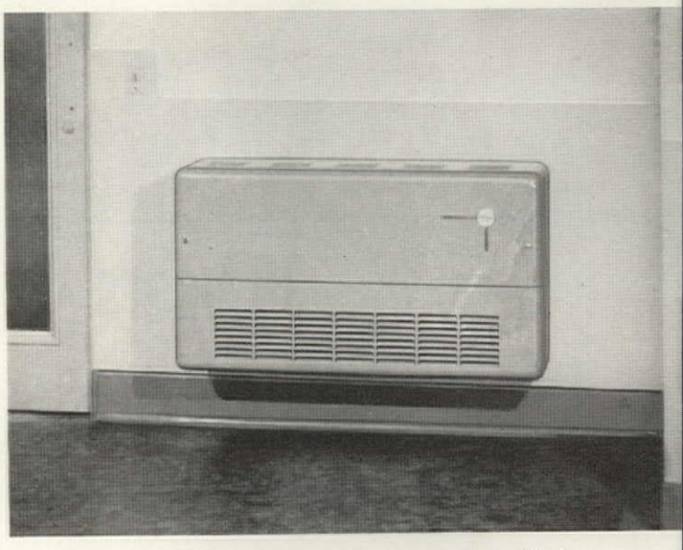
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AAF herman nelson

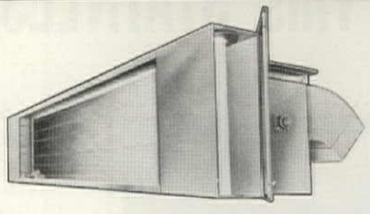
American Air Filter

COMPANY, INC

LOUISVILLE 8, KY.



Remodeled corridor—no room for recess, yet off floor



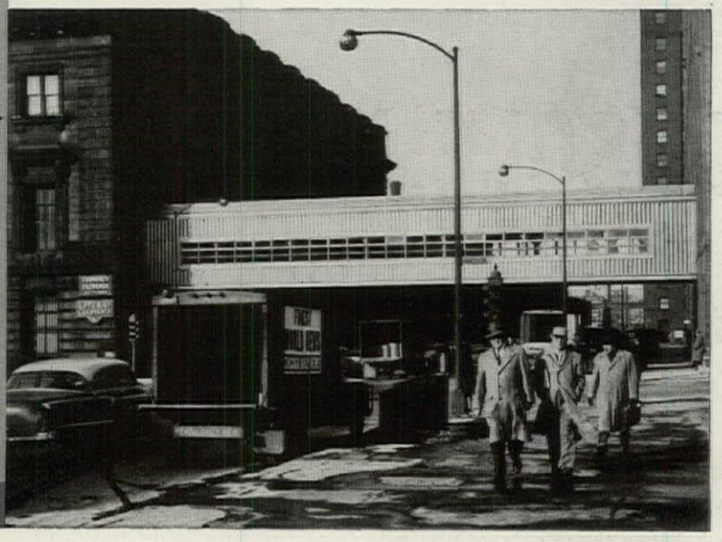
ANOTHER ADVANCED-DESIGN PRODUCT FROM HERMAN NELSON

Now . . . Roll-O-Vent air handling units that change their own filters *automatically!* They're new from Herman Nelson. A 65-ft. roll of filtering media loads like a camera, lasts up to a year, provides *constant,* high-level performance because clean media rolls into position *without attention.* Write for details. Ask for Bulletin 780A.

15 years after it was built...



30 years after it was built...



This STAINLESS "Covered Bridge" is *EVER-NEW*

"INFO" for Architects and Builders

1. "AL Structural Stainless Steels"—12 pages on stainless grades, properties, forms, finishes, standard "specs," uses and advantages.
2. "Stainless Steels for Store Fronts and Building Entrances"—40 pages of valuable data on examples and details. A1A File No. 26D.
3. "Stainless Steel Curtain Walls"—A 24-page progress report on methods. A1A File No. 15-H-1.

Write for Details

Address Dept. B-91

The top photograph of the AL Stainless Steel-surfaced concourse that connects the Chicago Daily News building with the North Western station was taken about 1939-40. The lower picture was made early in 1955. There's no discernible change.

Another 30 years—50 years—100 . . . the bridge's stainless shell will still be just as good as new. No one knows *how long* AL Stainless actually will last, but it could be for centuries, if required. And all the time it requires no particular maintenance, no painting or refinishing—just occasional washing to remove the grime that isn't carried away naturally by wind and rain.

No other architectural metal can match stainless steel in these properties. Not one can last as long, cost as little to maintain, and prove as economical in the long run. • Use AL Stainless in *your* projects, for maximum service and lasting beauty, both in exteriors and interiors. Ask us for any help you need. *Allegheny Ludlum Steel Corp., Oliver Bldg., Pittsburgh 22, Pa.*

W&D 5654

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Allegheny Ludlum

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AL STAINLESS STEEL

WHEN QUALITY IS FIRST IN IMPORTANCE . . .

(as in the new Chemical Corn Exchange Bank in New York)



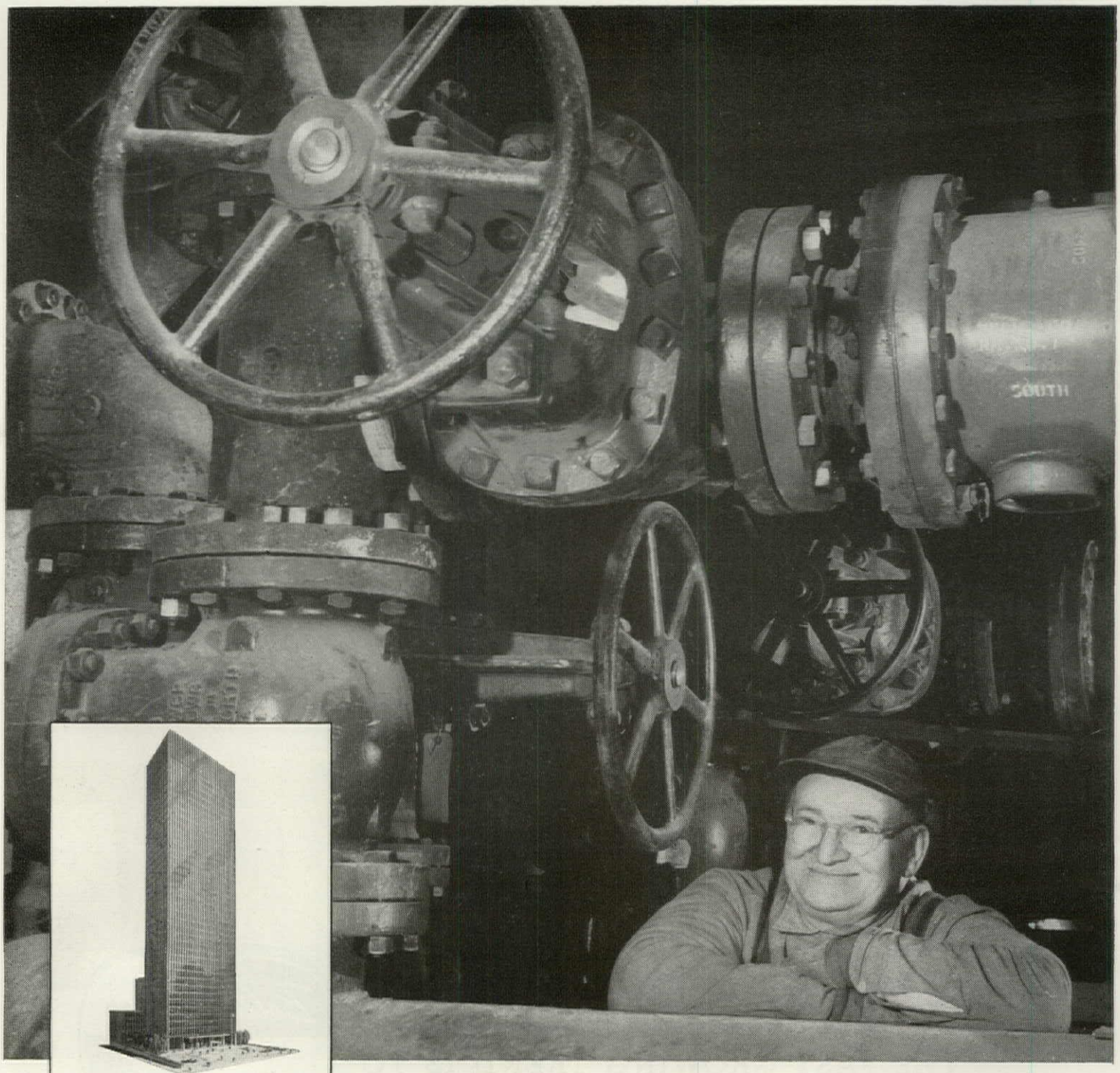
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River-Bed Foundation Problem Solved for NEW CITY-COUNTY BUILDING

Foundation problem for the new, nine-story Augusta-Richmond County Municipal Building in Augusta, Georgia, stemmed from alluvial deposits. Part of the city is located on an old river bed. Soil borings showed erratic strata of clayey sand, sandy silt and gravelly sand. A general soil profile at the site is shown in the table.

- **0-30 feet: Loose silty clay, fine to medium sand.**
- **30-40 feet: Loose to firm silty fine sand and gravel.**
- **40 feet: Stiff to hard micaceous fine sandy silt. Some gravel.**

The solution was a foundation of 691 Armco HEL-COR® Pile Shells (12¼" diameter; 18 gage). These light weight, helically corrugated shells are driven with a mandrel. They are cast in place after inspection for water-tightness and alignment. Design load for each pile shell on the Augusta job was 30 tons. Required penetration was four blows per inch.

Many important advantages of HEL-COR Shells were demonstrated in this typical operation. Long lengths mean less splicing on the job-site. Short cut-offs can be salvaged by welding them to other pile shells. In addition, individual shells can be inspected **after** they are driven. Write us for complete data on Armco Pile Shells, Pipe Piles and Caissons. There is a size and type for practically every foundation job. Armco Drainage & Metal Products, Inc., Welded Pipe Sales Division, 4737 Curtis Street, Middletown, Ohio. Subsidiary of Armco Steel Corporation. In Canada: write Guelph, Ontario. Export: The Armco International Corporation.



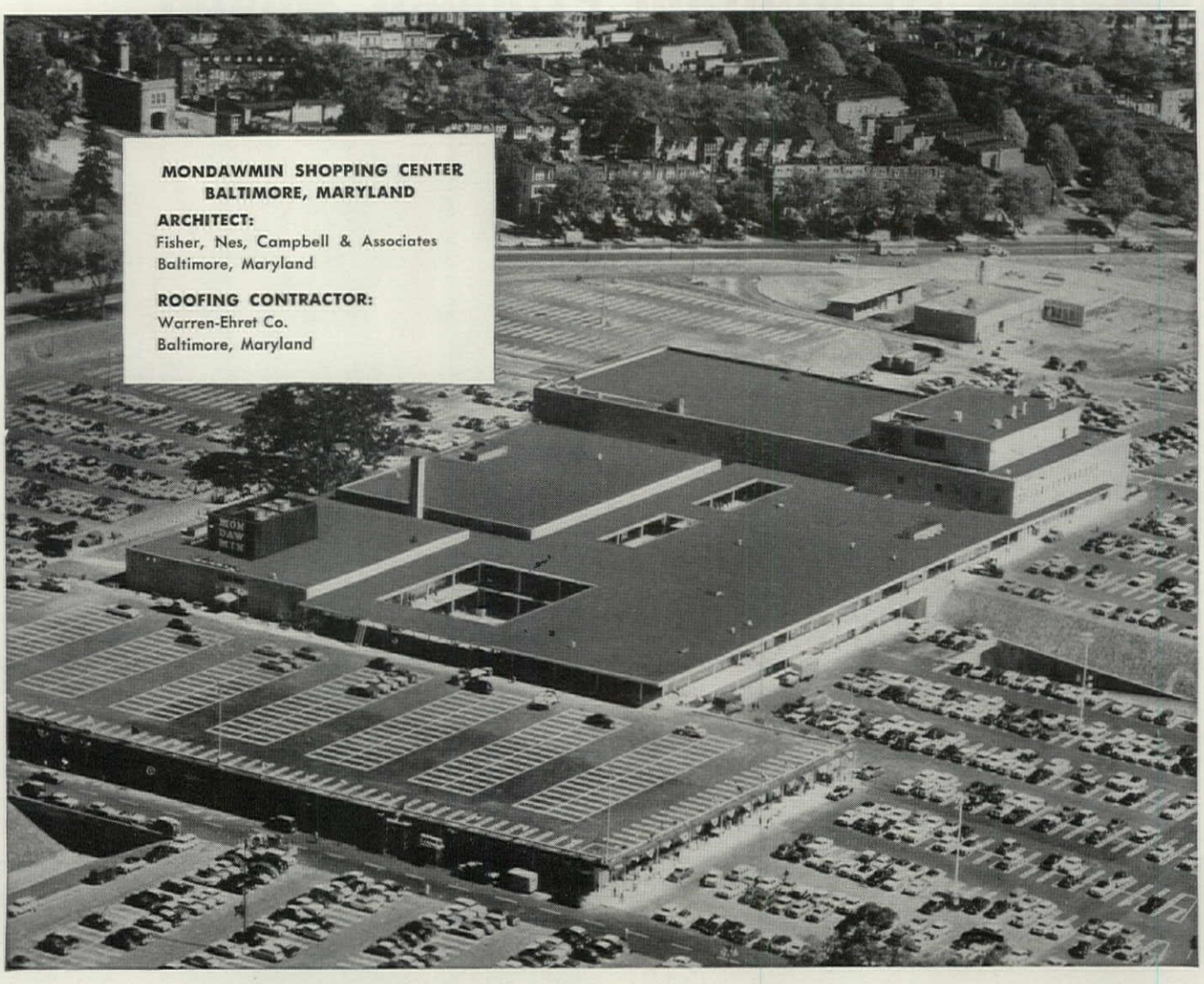
Armco Pile Shells are driven with a mandrel. Required penetration on the Augusta building was four blows per inch.



Drawing of the new Augusta-Richmond County Municipal Building in Augusta, Georgia. Building rests on 691 piles consisting of concrete-filled Armco HEL-COR Pile Shells.

ARMCO FOUNDATION PIPE

ARMCO®



On the new Mondawmin Shopping Center . . .

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Will assure years of trouble-free service

Whatever your roofing need, there's a Ruberoid specification to fit the job. On the new Mondawmin Shopping Center in Baltimore, for example, two different roofing specifications were used. Tested and proven on many buildings over the years, Ruberoid specifications are engineered to fit the job requirements precisely.

1. The main roof area of 1,316 squares was built up of Ruberoid Special Bitumen and Air-Vent Asphalt Felt, Specification 203A. Special Bitumen's formula means superior roof performance under any weather conditions.
2. For the 902 squares of parking deck area, a Ruberoid specification of coal tar pitch and tarred felt was used under the concrete surfacing.

With all Ruberoid Built-Up Roofs, rigid manufacturing standards assure uniform quality on every square and more years of trouble-free service for your roofing dollar.

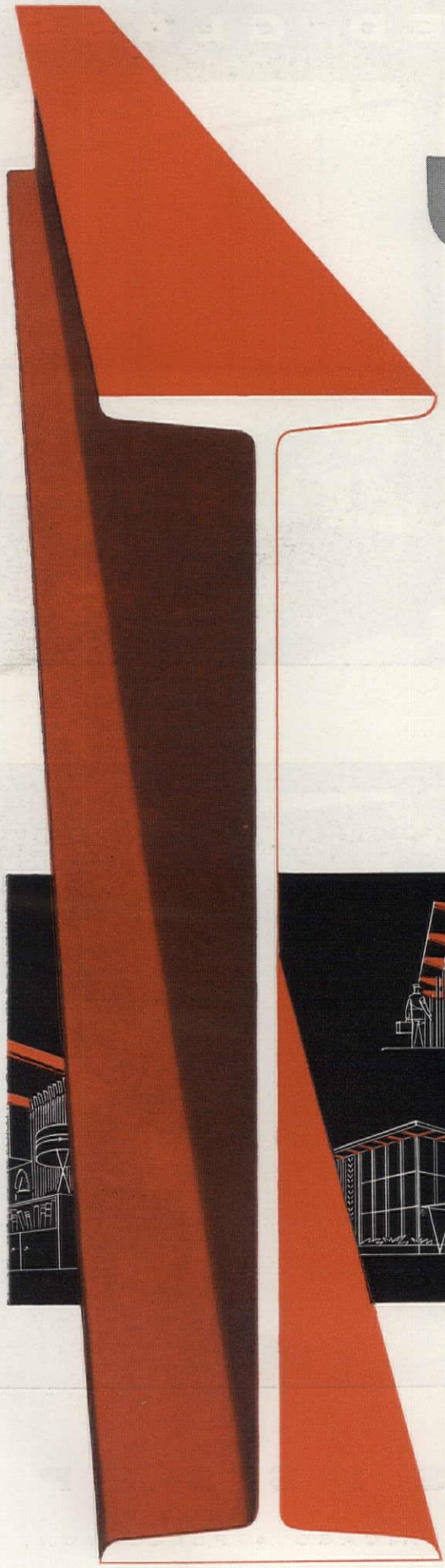
Consider the advantages of Ruberoid products for your next built-up roofing job. No matter what problem may be involved, there's a Ruberoid specification engineered to fit the job—ask your Ruberoid Approved Roofer.



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Extensive use of Coolite glass in sidewall sash in the Thomy Lafon Elementary School, New Orleans, fits the aims of architects, Curtis & Davis, to obtain "the ultimate in scientific achievement for natural lighting . . . a truly functional architecture adapted to human values and physical needs." Coolite, glare reduced, floods classrooms with softened, glare-free light . . . absorbs up to 50% of solar heat . . . makes rooms appear larger, friendlier.

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In a distinctively different doorway, made possible by the handsome Broadlite pattern, the reception hall is flooded with flattering, diffused daylighting. A rythmic pattern, translucent Broadlite glass offers a new, dramatic decorating texture that creates a feeling of leisurely living and gracious hospitality, in either modern or traditional settings.



Architect: Kegley, Westphall & Arbogast

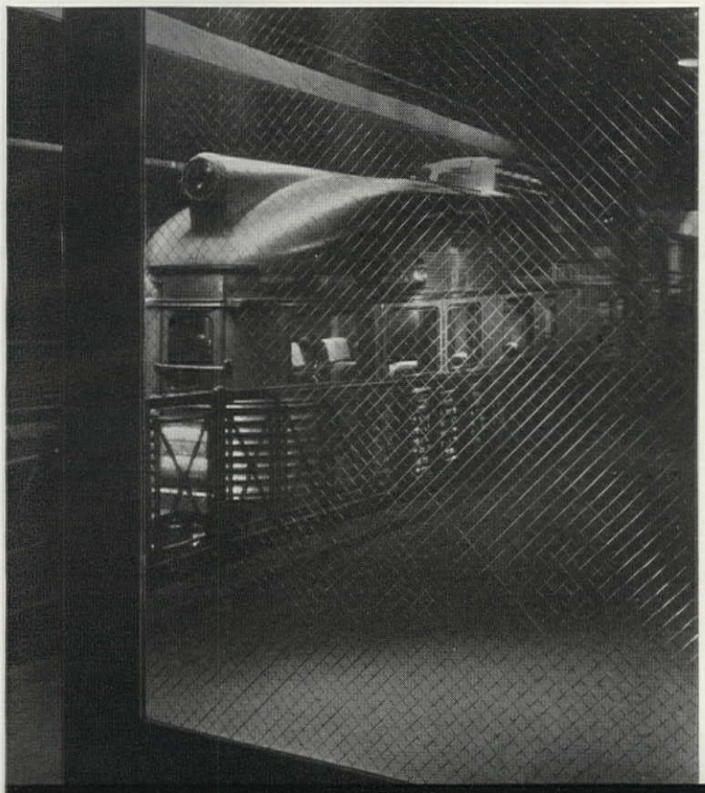
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Hedrich-Blessing photo

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Architects and Engineers: Skidmore, Owings & Merrill
Photo: Ezra Stoller



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DOORS CLOSE QUICKLY
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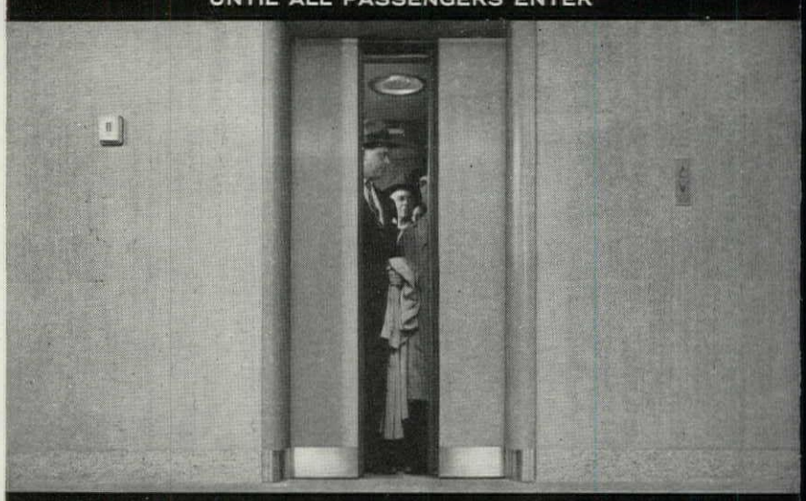
OR 16 PASSENGERS



DOORS OPEN QUICKLY AT YOUR FLOOR



DOORS REMAIN MOTIONLESS
UNTIL ALL PASSENGERS ENTER



DOORS CLOSE QUICKLY
AFTER LAST PASSENGER ENTERS



AT THE LIFE AND CASUALTY TOWER, NASHVILLE, you can ride operatorless Westinghouse Elevators with Traffic Sentinel Doors.

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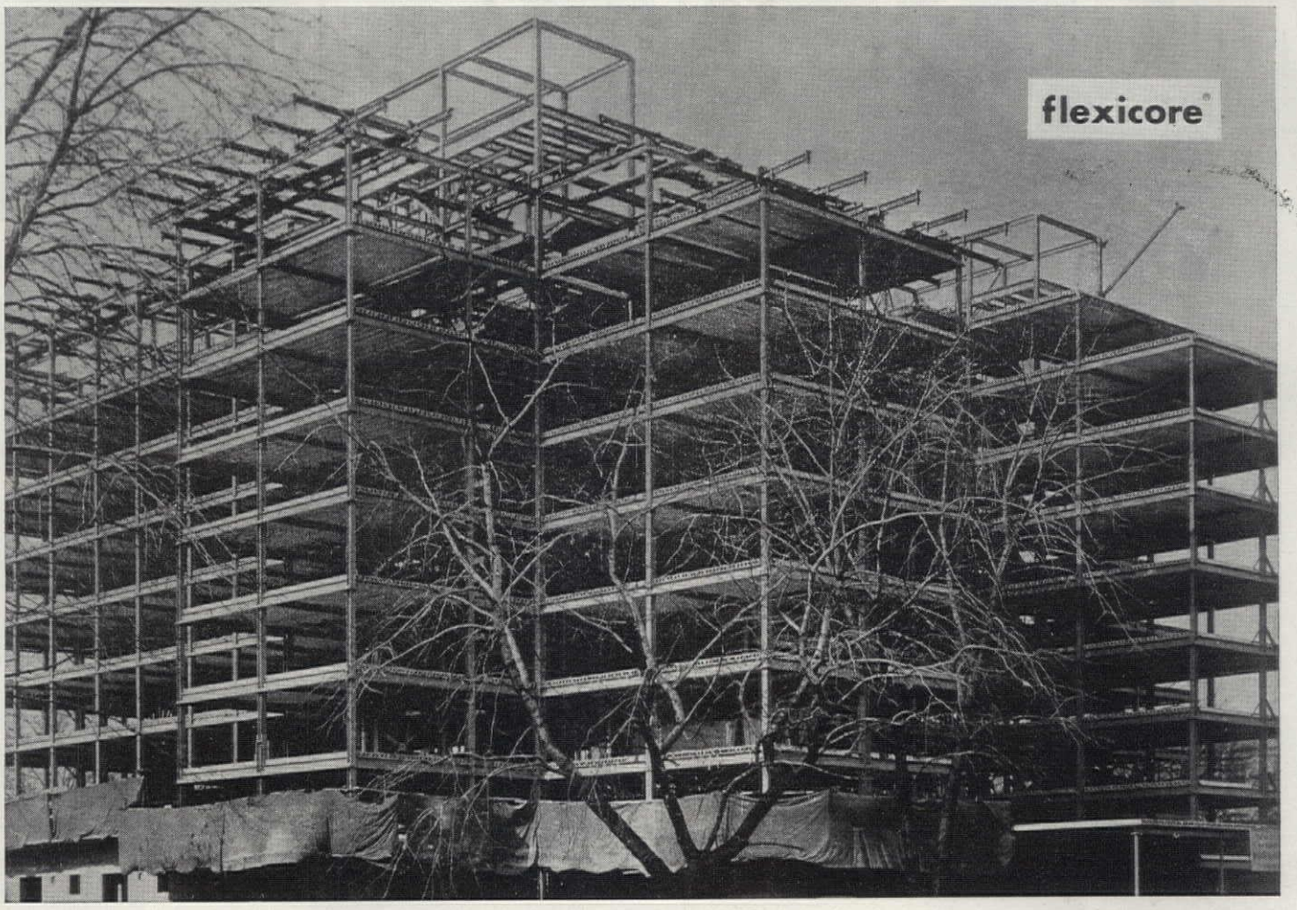
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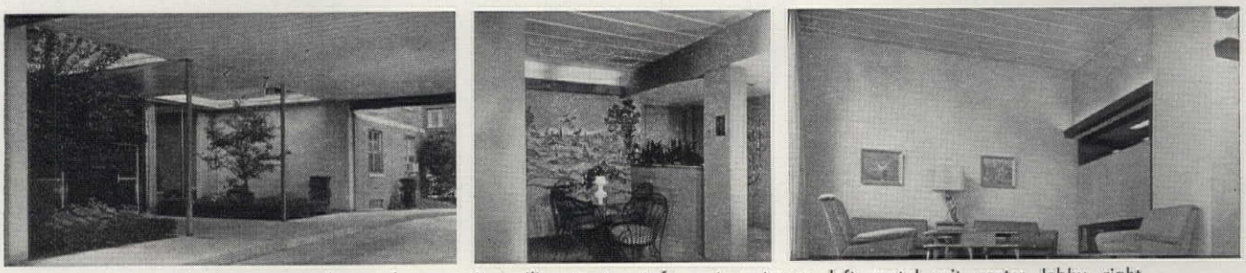
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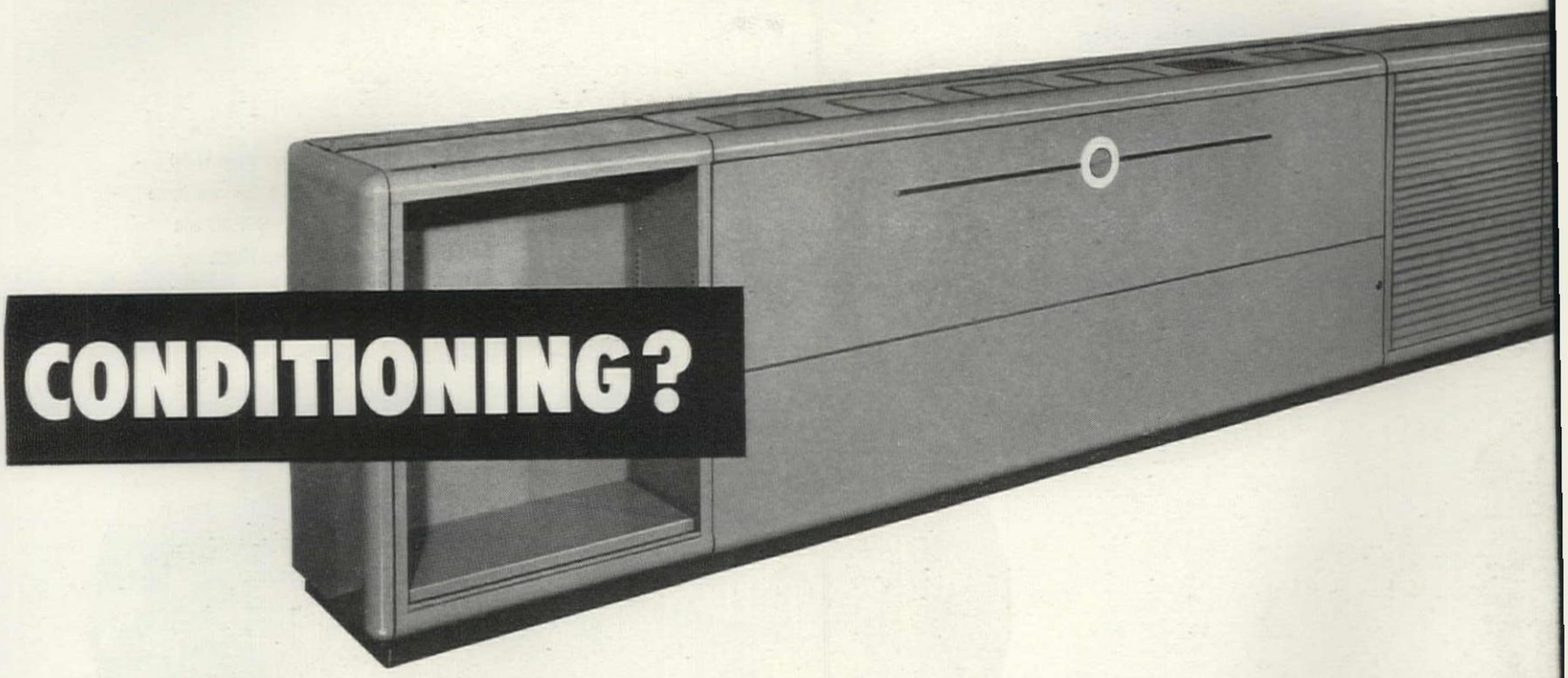
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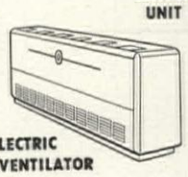
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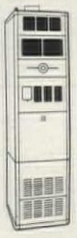
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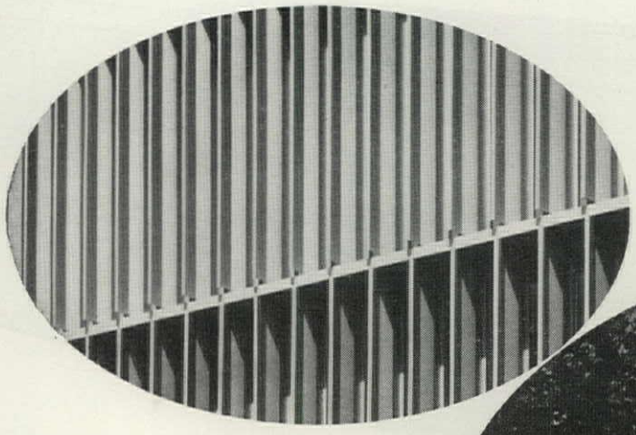


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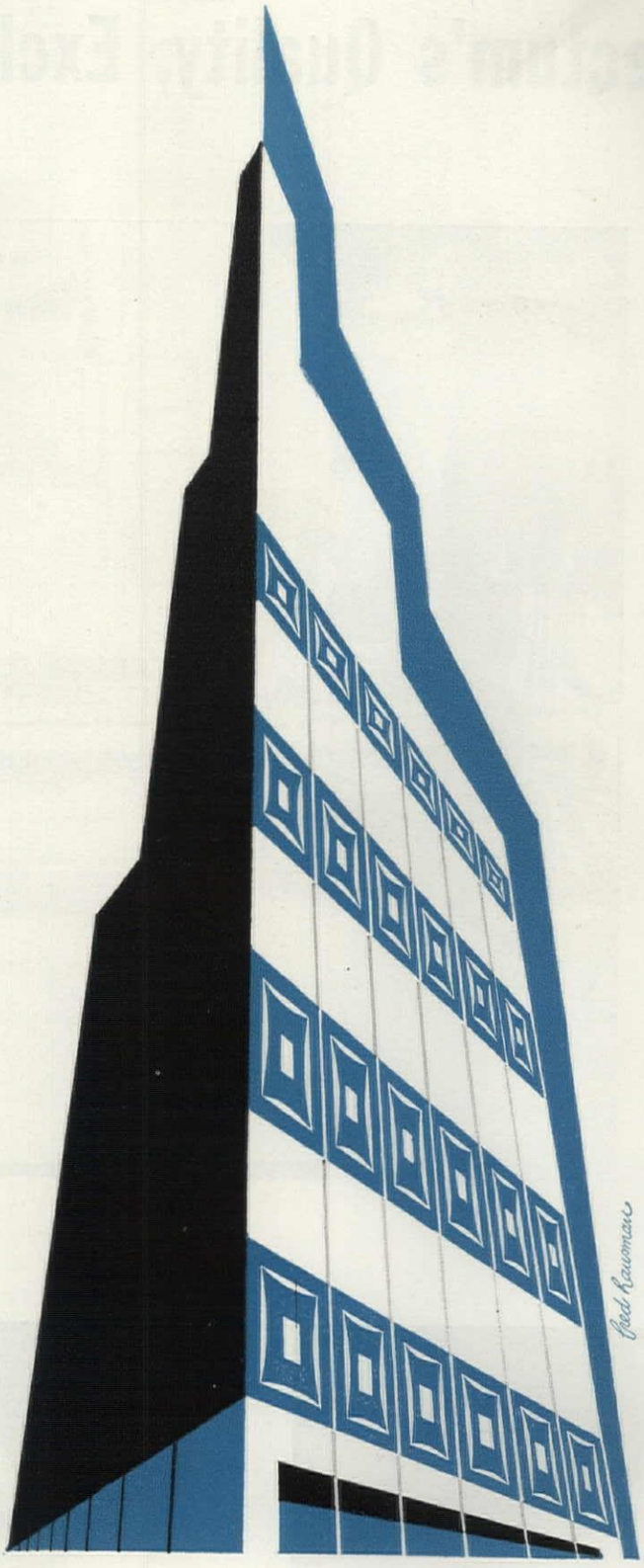
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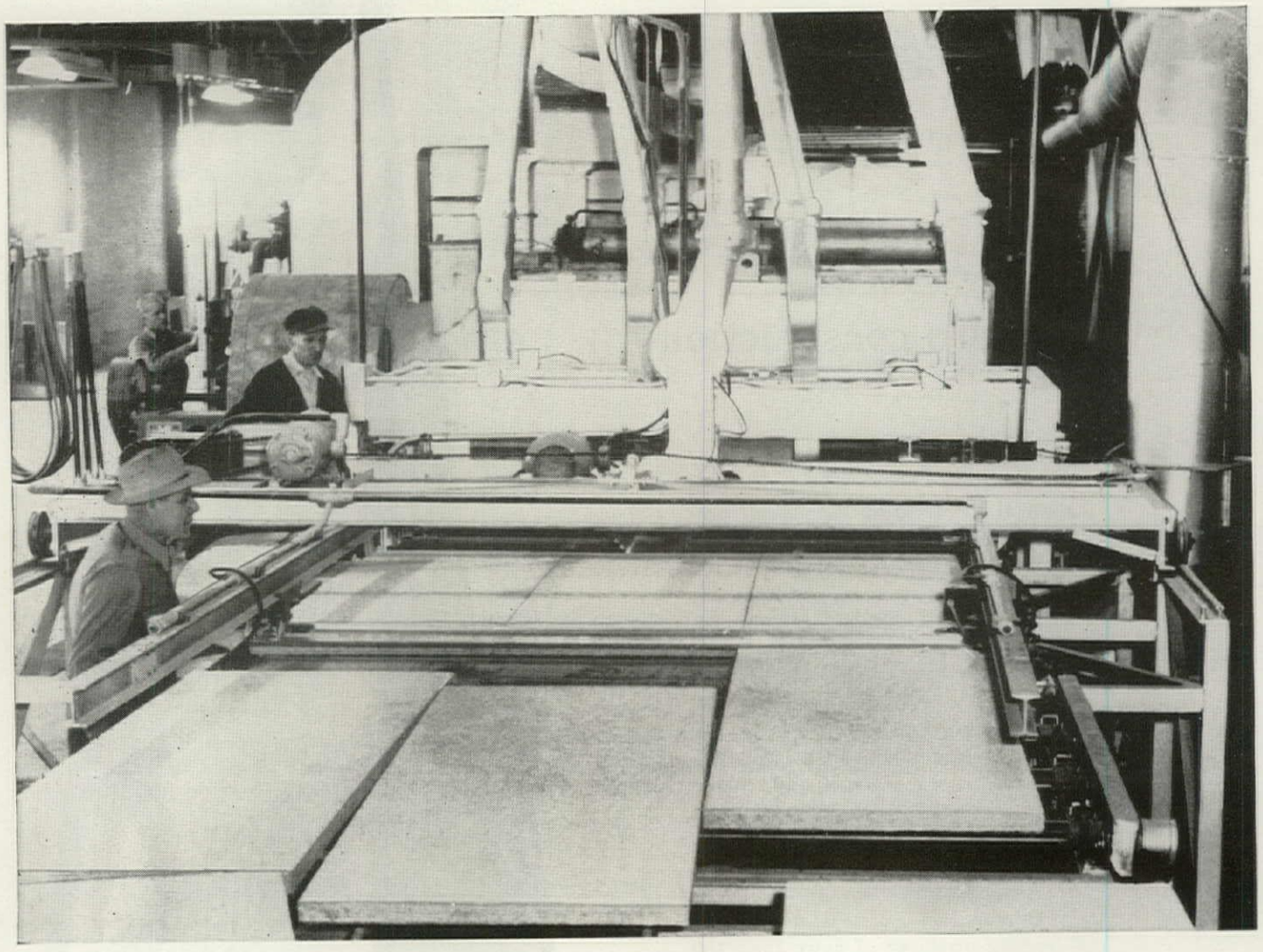
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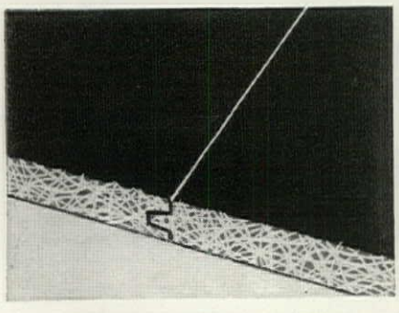


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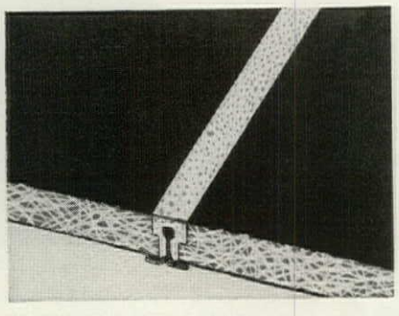
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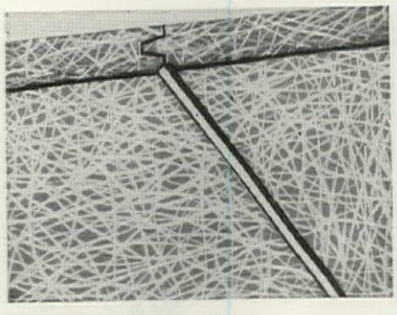
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Letters

... land ... housing ... art ... ethics

ARIZONA ETHICS

Forum:

I was amazed and shocked to see the space given to Frank Lloyd Wright's design for the Arizona State Capitol [AF, April '57]. More shocking was the secondary place [News] allotted to the architectural firm which was actually engaged by the state authorities to design the building. Regardless of what one's personal views are toward Mr. Wright, and in no way trying to detract from his eminence, it would certainly appear to me, a member of the profession, that this whole treatment of the matter by your magazine is completely out of place and distinctly in poor taste. As near as I can gather from the printed material, Wright is trying to get in on something in which he has no ethical position.

JOHN H. FISHER, *architect*
Pittsfield, Mass.

▪ FORUM, *to fulfill its mission of architectural journalism, believes that something more than a cataloguing of contracts is necessary.*—ED.

BACKWARD GLANCE

Forum:

I feel that a renewed interest in "art nouveau" [AF, May '57] is probably a nostalgia and a reaction to the aridity of the so-called international style. I don't see how we can gain anything by going backward when we are just on the threshold of exciting new construction.

GEORGE NAKASHIMA, *woodworker*
New Hope, Pa.

Forum:

I'm sure Horta's admirers here and abroad will be happy to find his work so well displayed in the May FORUM ["Art Nouveau—new again"]. But they will be perhaps as surprised as I to read in the last picture caption that Horta "returned to the historic revivals" and even that he abandoned "the principles he pioneered." I know nothing in his buildings or writings to support these ideas. Horta made many passing allusions to stylistic details of the past, in the course of a long career, but never I think designed a building or big feature (after his very first small park pavilion) intended to revive the past, as men all around him were indeed doing.

If anything, allusions to the past became less and less literal as his style matured. His principles were quite unshakable, I'd suspect; how else explain his inability to go along with the younger modernists in the 1920's? He was consistently a modernist of the first generation; his style matured, got massive and even perhaps comparatively pompous as his commissions became more official and public. But he was no turncoat.

EDGAR KAUFMANN JR.
New York, N. Y.

▪ FORUM *based the disputed caption, accompanying Author Kaufmann's, on the fact that the emphasis on structure, space and light so evident in Horta's early work was missing or at least obscured in his later work.*—ED.

HOUSING DEBATE

Forum:

. . . I look forward to the next installment of the housing debate begun by Catherine Bauer in the May FORUM.

DAVID L. ARDITO
Assistant professor
Department of Architecture
University of Notre Dame
Notre Dame, Ind.

▪ *Professor Ardito can be reassured that* FORUM *will keep the subject open for comments from the floor (see below) as long as there are voices to be heard.*—ED.

Forum:

I don't regard the issue as being that of trying to save the public housing program or scuttle it. We should be long past the stage of wasting time on a futile debate over philosophical issues. The basic challenge is that of preserving and reconstructing our American cities so that our tremendous investment in them is protected, while we seek to make them function more effectively. In this setting, public housing still has an important role to fulfill. The precise characteristics of its role will have to be defined as the total task is attacked.

OLIVER C. WINSTON
Baltimore Urban Renewal & Housing Agency
Baltimore, Md.

Forum:

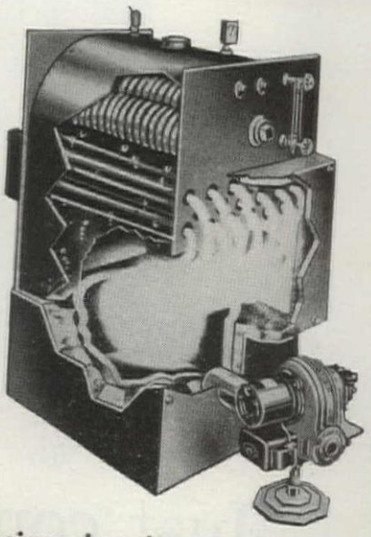
Public housing is only a fractional part of a much larger problem confronting urban areas.

The basic structure of the over-all housing program must be overhauled and integrated in a program encompassing all ele-

continued on p. 90

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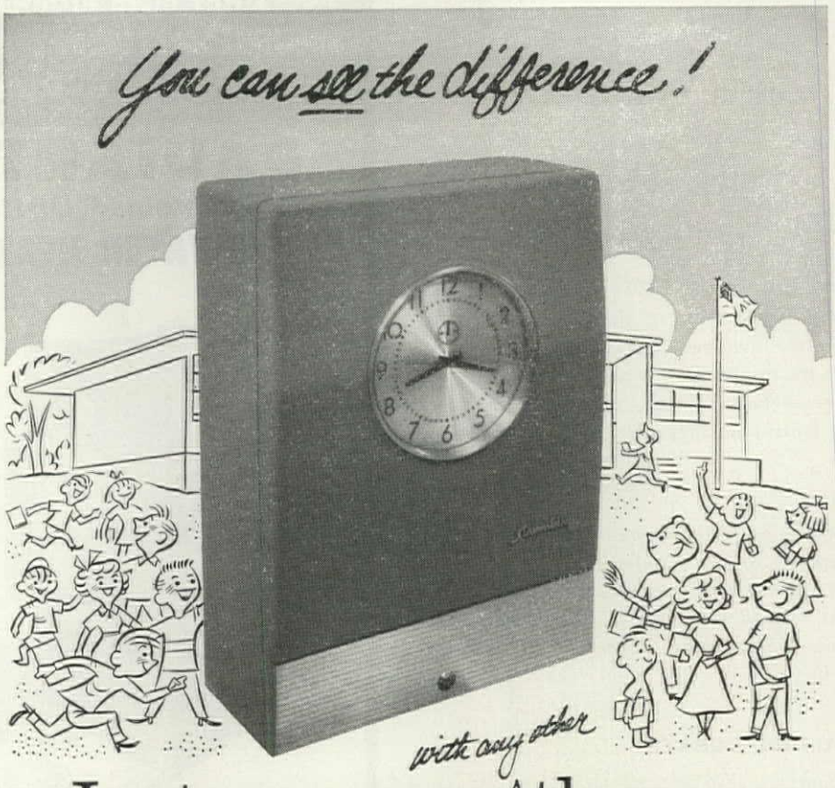
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ments of urban development. There must be a straight line authority at the federal level which runs through all activities having an impact on urban environment—including each of the housing activities presently administered by the several housing agencies. This authority should be a department with cabinet status.

The proposals so far put forth in the FORUM would seem to have validity only after the basic concept of a total program for urban development has been accepted and established.

C. L. FARRIS, *executive director*
St. Louis Housing Authority
St. Louis, Mo.

LAND SHORTAGE

Forum:

Your March editorial ["Our Surplus Land"] still has me perplexed.

The combination of growth in the population and nonfarm utilization takes away a little more than 2 million acres a year, in contrast to the increase in equivalent acreage due to productivity of 5 million a year. We are therefore adding the equivalent of 3 million acres a year to the existing 45 million. This does not suggest to me a shortage of land "in the early 60's."

ROBINSON NEWCOMB
Washington, D. C.

▪ FORUM, *relying on an analysis by Guy C. Jackson, president of the National Reclamation Assn., recognized that the land taken from agriculture for nonfarm uses is often the most productive; hence the pessimism.* —ED.

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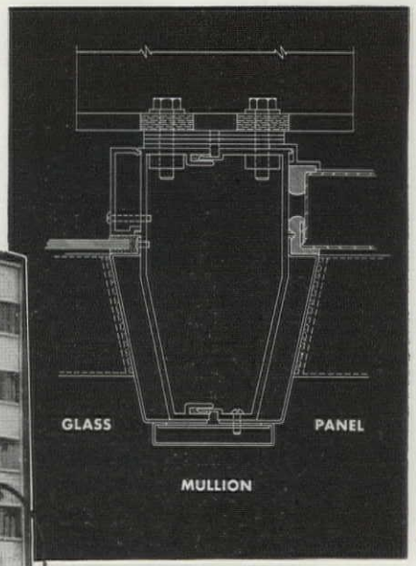
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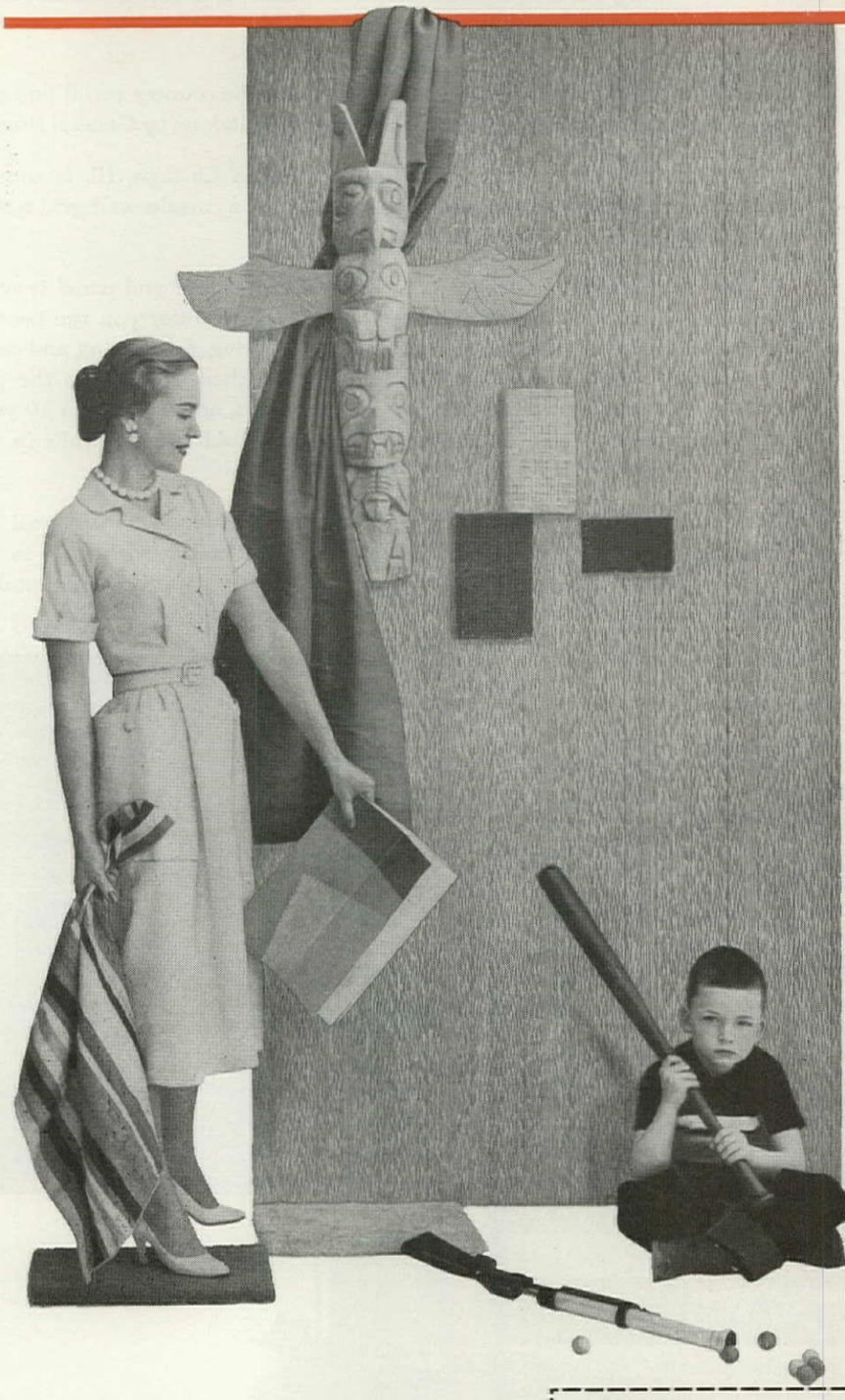


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Skouras plans development of Fox movie lot . . .

San Francisco architect heads trade mission to Japan



SKOURAS

A decade of decline for the nation's motion picture industry has caused some fast stepping by major studios to find alternate sources of income. Twentieth Century-Fox, one of the giants, has found its real estate to be just such a source—and an extremely valuable one. First, it was oil wells that pushed Fox movie sets into the background. Now, Fox President **Spyros P. Skouras** announces a new real estate venture involving studio property. The 280-acre West Los Angeles lot is currently under study by **Welton Becket & Associates**, and a number of site plans have already been drawn up. One would call for an ambitious complex of office buildings, stores and apartments in what Mr. Skouras calls "A Radio City of the West." If the development of the Twentieth Century lot takes place, the studio would merge its production facilities with those of Metro-Goldwyn-Mayer, about two miles away. Like Fox, M-G-M has been forced to cut back its movie production, and currently rents some of its production space for television production. Final decision on a plan for the Fox property is "some months off" says the studio, and Skouras himself figures it will take several years to "achieve maximum realization from this valuable real estate."

MISSION TO OSAKA



BOLLES

The first US trade mission to Japan since the end of World War II was due back this month. Sponsored by the City of San Francisco and the Chamber of Commerce, the ten-member mission was headed by San Francisco Architect **John S. Bolles**. The delegation spent most of its time in Osaka, second largest city and headquarters of Japan's burgeoning industrial regeneration. Bolles leaves the Orient only in a geographic sense: on his return to San Francisco he picks up his work on the extensions of the Ping Yuen housing project in congested, tenement-ridden Chinatown. The public housing project is to provide around 200 units in two buildings. Bolles hopes to capture the flavor of the Orient in his design. "Our tentative plan," says the architect, "is to cover only about 25% of the lot with building. Then, color will cost nothing, and we can use the characteristic and symbolic color bands high on the buildings." Besides color and space, Bolles plans to introduce gardens to Ping Yuen: "The development can reflect the great teaching of Oriental architecture—the integration of house and garden."

MOSCOW RESIGNS

Warren Moscow, executive director of the New York City Housing Authority, will leave that job at the end of this month. Moscow, who has had the top housing job for two years, leaves in the wake of newspaper attacks on the Housing Authority and an investigation by the city administrator into some of its policies. He emphasizes, however, that he was "under no pressure" to resign, and Mayor Wagner, in accepting the resignation, praised his "contribution to the needs of good government." (Moscow did say that such a job, under constant pressures from city, state and federal agencies, is "too tough a job for any man to stay in for long.") Formerly a political reporter for the New York *Times* and Manhattan borough works commissioner, Moscow plans to enter private business.

APPOINTMENTS, AWARDS

Architects **Kelly & Gruzen** have appointed **Dr. Sanford Bates** as a technical consultant in the planning and design of penal, welfare and hospital facilities. Dr. Bates retired three years ago as Commissioner of Institutions and Agencies for New Jersey, and was the first Director of Federal Bureau of Prisons.

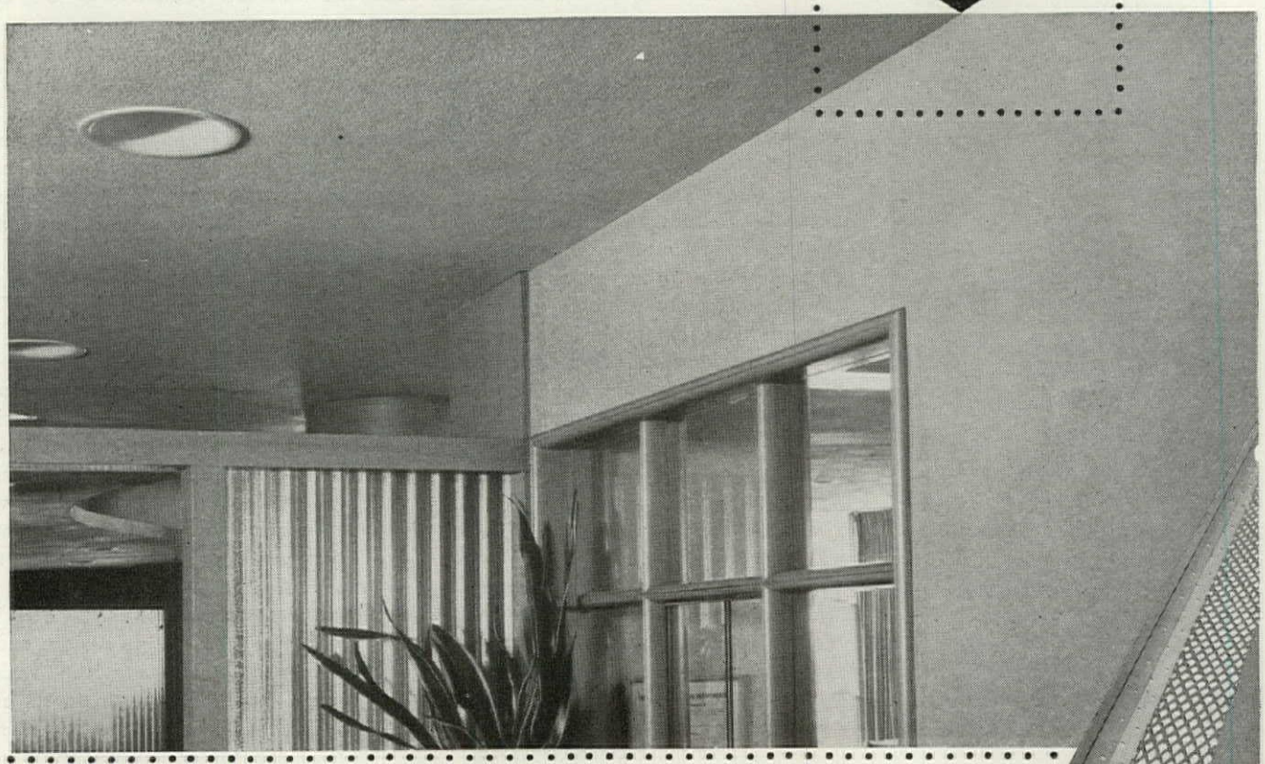
Illinois' **Gov. William G. Stratton** appointed **John D. Jarvis** to become state supervising architect.

John F. Hennessy, of **Syska & Hennessy**, was re-elected president of the New York Building Congress.

Lewis Mumford received the Gold Medal of Britain's Town Planning Institute for outstanding achievement in town and country planning.

Howard L. King, vice president of **Mason & Hanger-Silas Mason Co., Inc.**, was designated Metropolitan Civil Engineer of the Year by the American Society of Civil Engineers. King was a consultant on the recently completed third tube of the New York Port Authority's Lincoln Tunnel.

Here, No. 66 expansion casing bead provides permanent separation between acoustical-plaster ceiling and sanded-plaster wall.

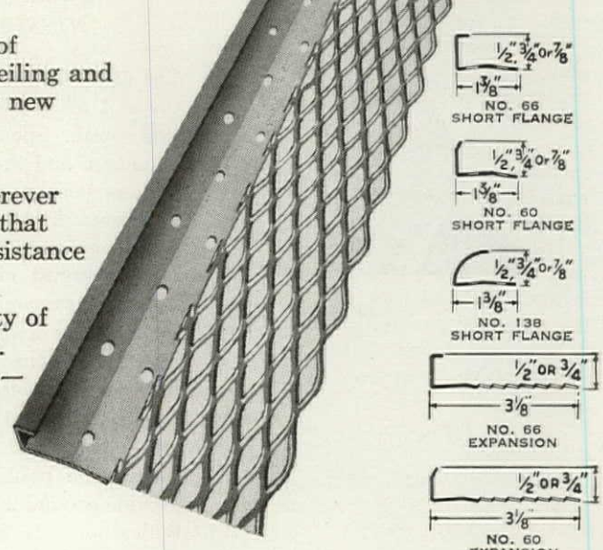


What's Milcor Casing Bead doing at the ceiling?

Here it's providing a sharp, permanent line of demarcation between an acoustical-plaster ceiling and a sanded-plaster wall. It shows one of many new uses for Milcor Casing Beads.

Architects are finding that casing bead's versatility makes it the perfect answer wherever a neat plaster terminal is desirable — places that require (1) The permanence of steel; (2) Resistance to fire and impact.

Milcor Casing Bead is available in a variety of styles — in solid- and expansion-wing types. See them in the Milcor Manual in Sweet's — Section 12a/In. Or write for Catalog 202.



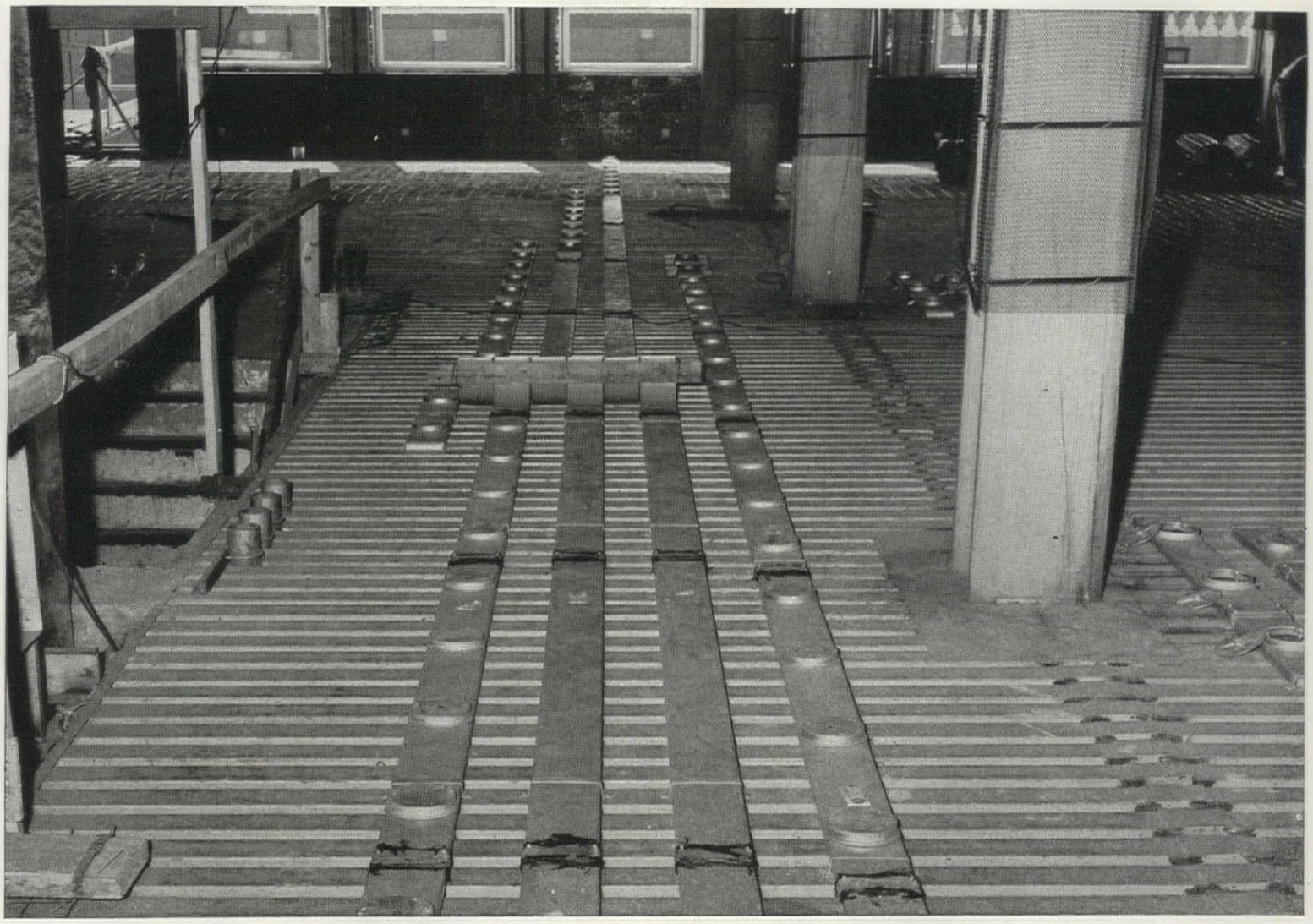
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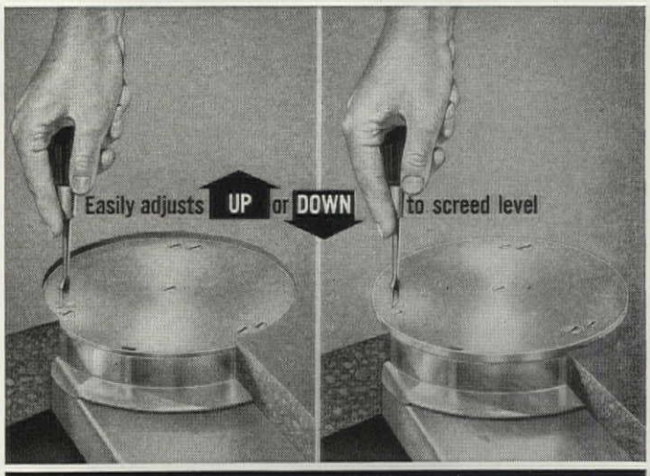
National Electric has developed an easily adjustable junction unit ring for its Header Duct Steel Underfloor Raceways.

The new Header Duct junction unit ring is designed to eliminate the raised spots and depressions that occur when underfloor raceway junction boxes protrude above or become recessed in the floor due to minor variations in the level of the concrete. Adjustment of three easily accessible flush screws in the cover of the unit is all that's required to level the ring with the concrete surface . . . assures a smooth, level, attractive finished floor.

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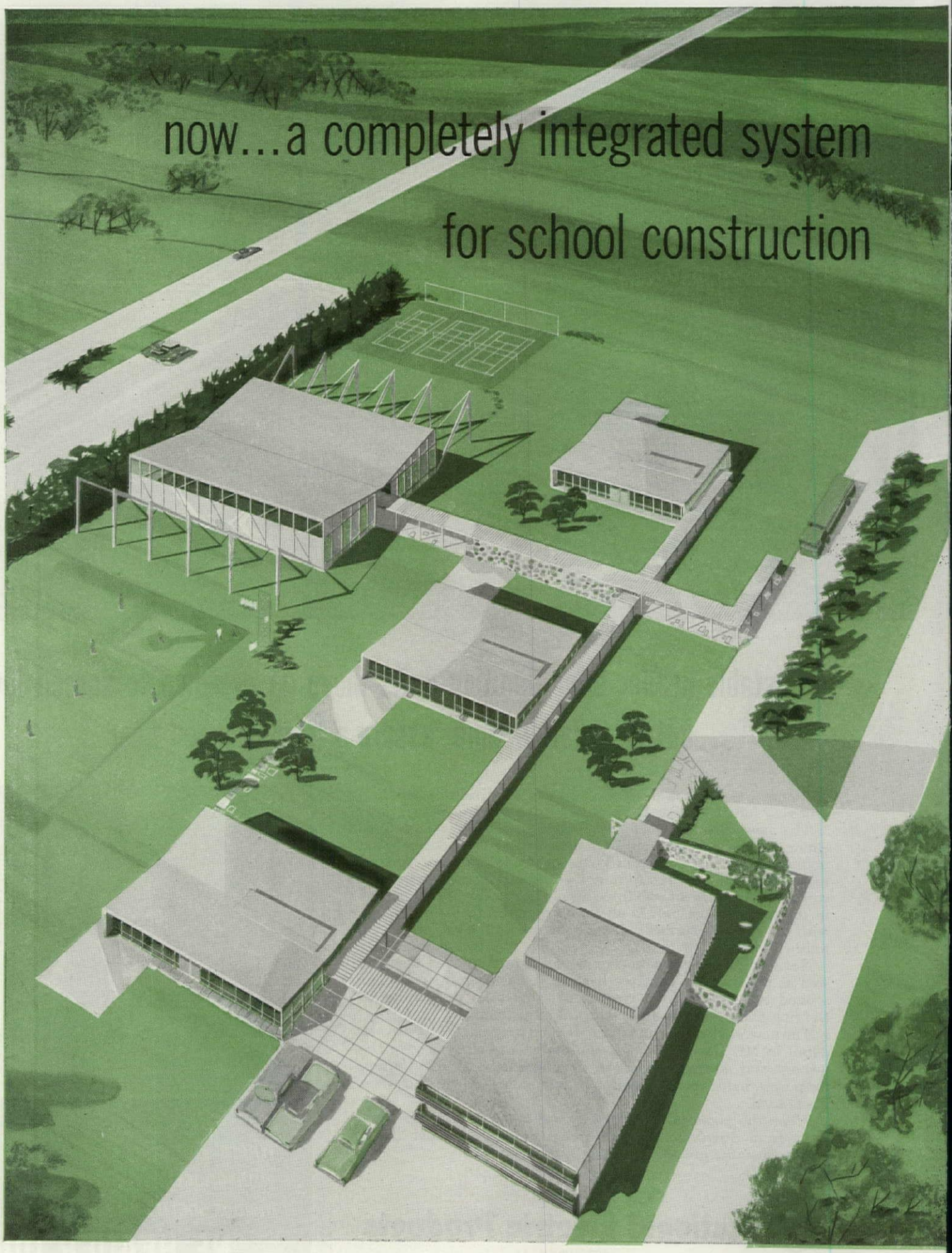
National Electric Products

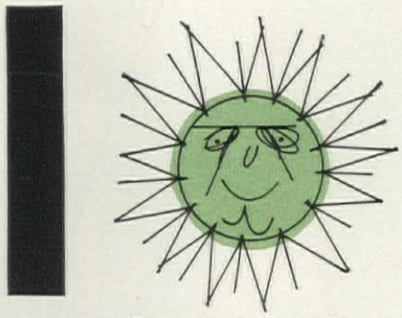
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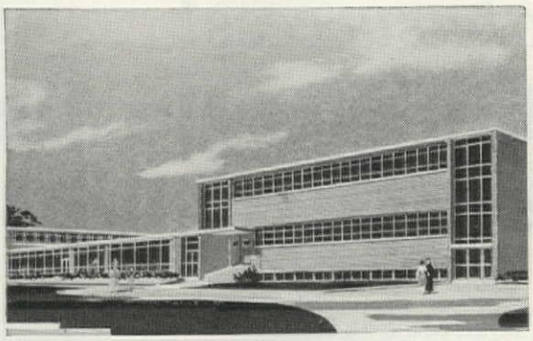
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KAWNEER UNIT WALL—Madonna High School, Chicago, Illinois. C. I. Krajewski, Architect-Engineer.

KAWNEER UNIT WALL

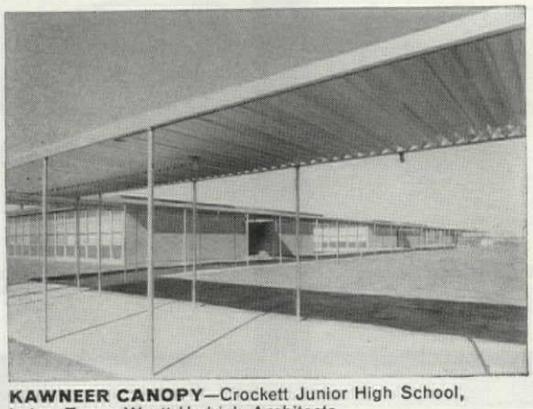
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KAWNEER CANOPY—Crockett Junior High School, Irving, Texas. Wyatt-Hedrick, Architects.

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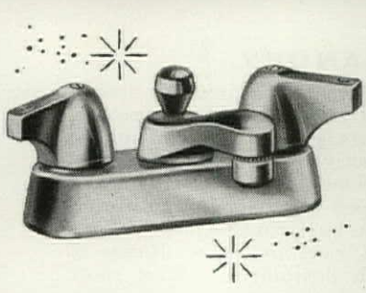
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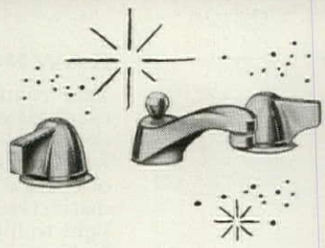
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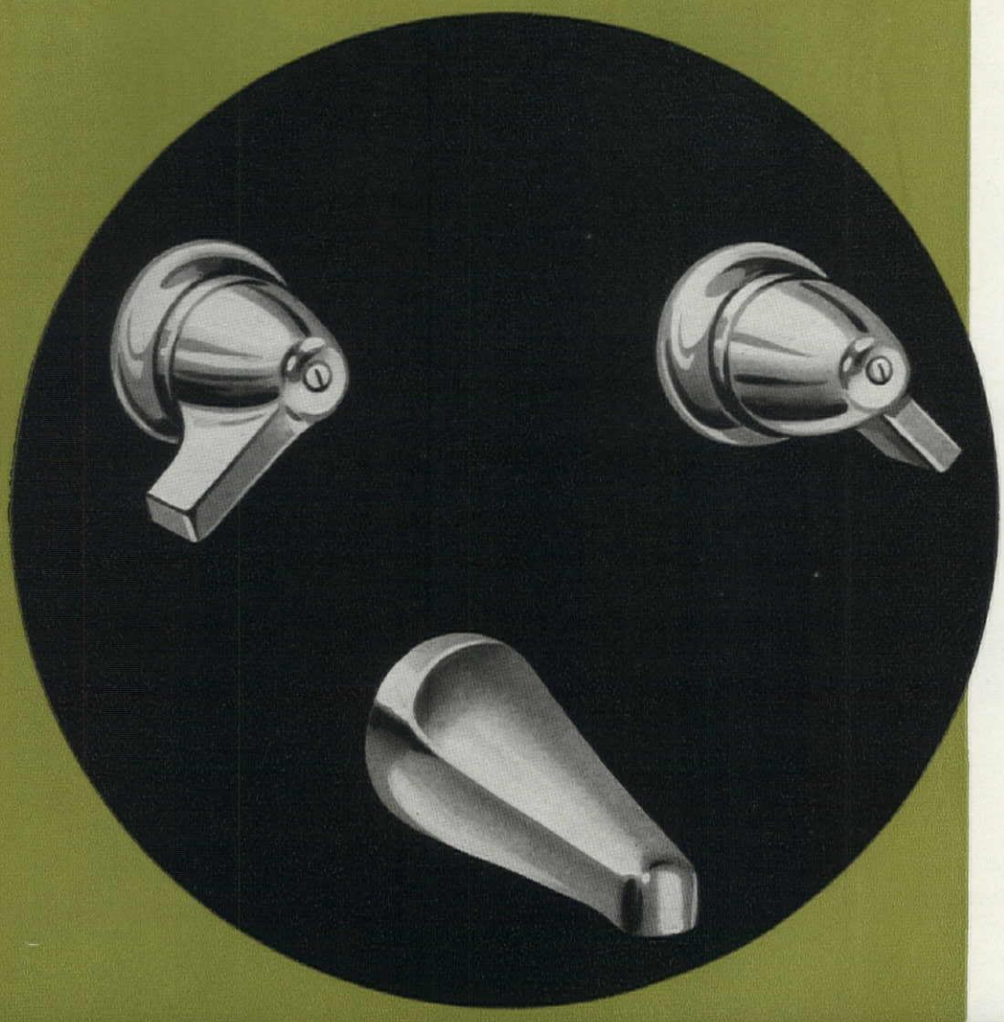
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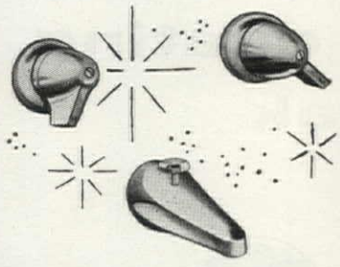


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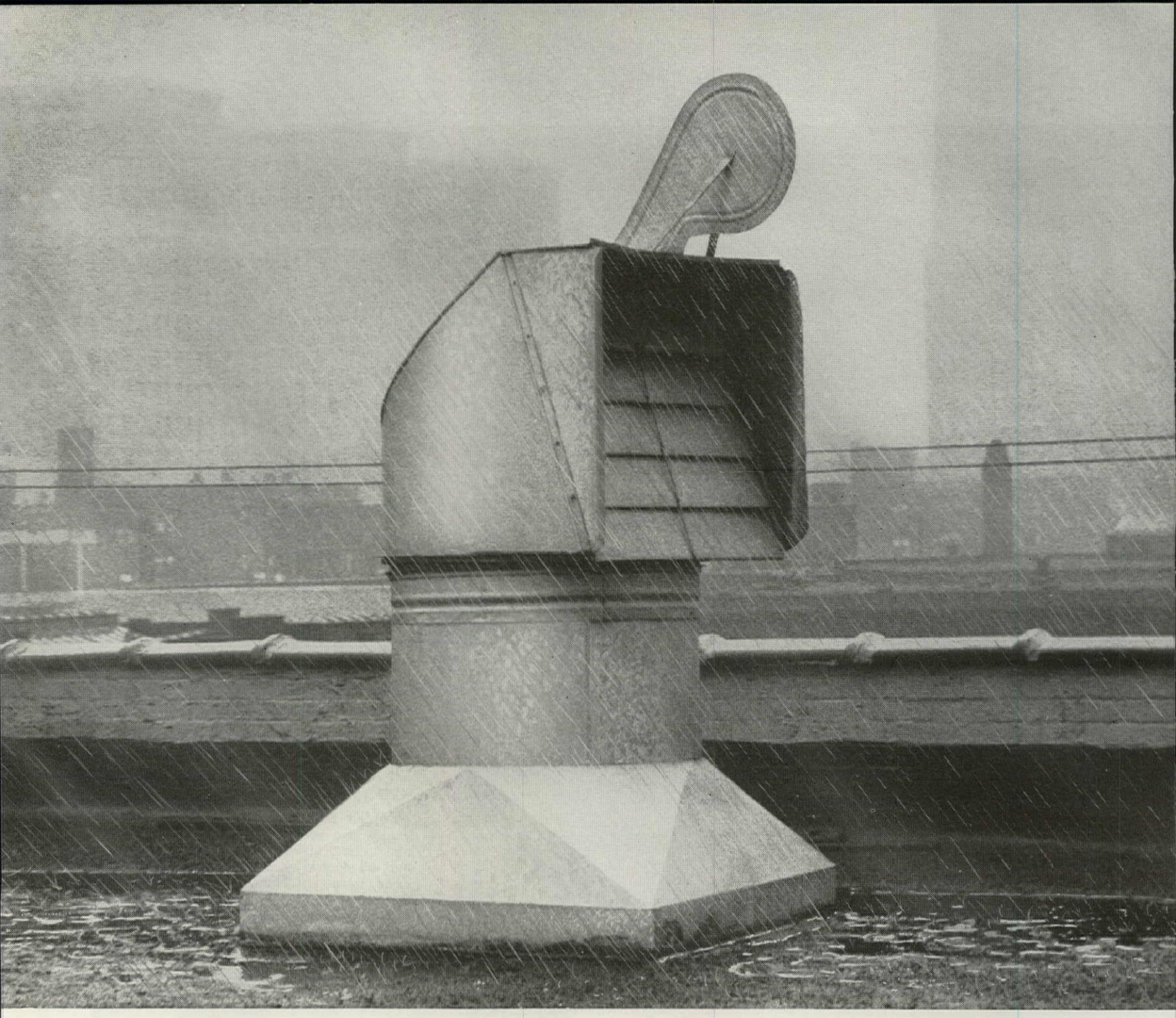
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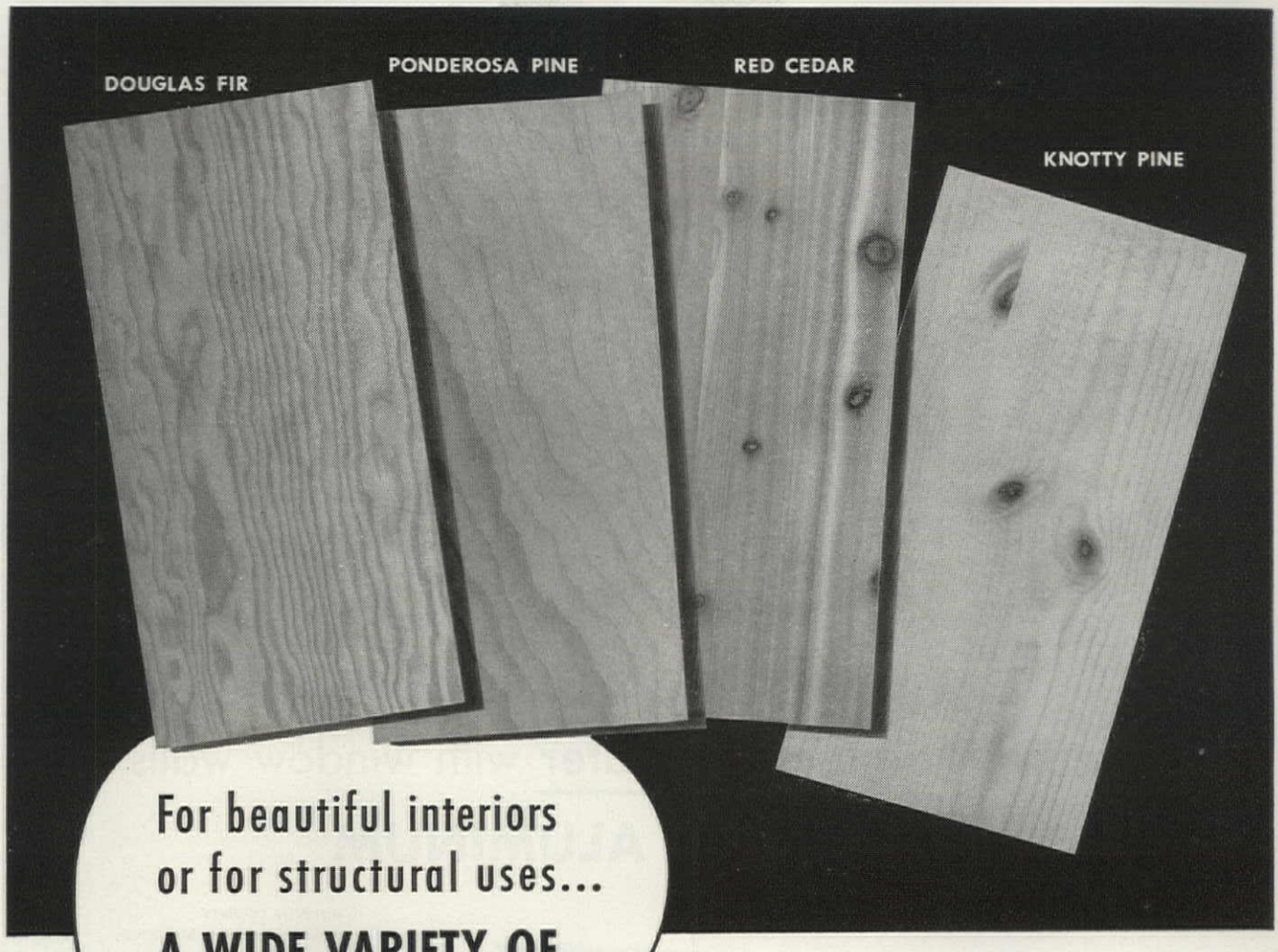
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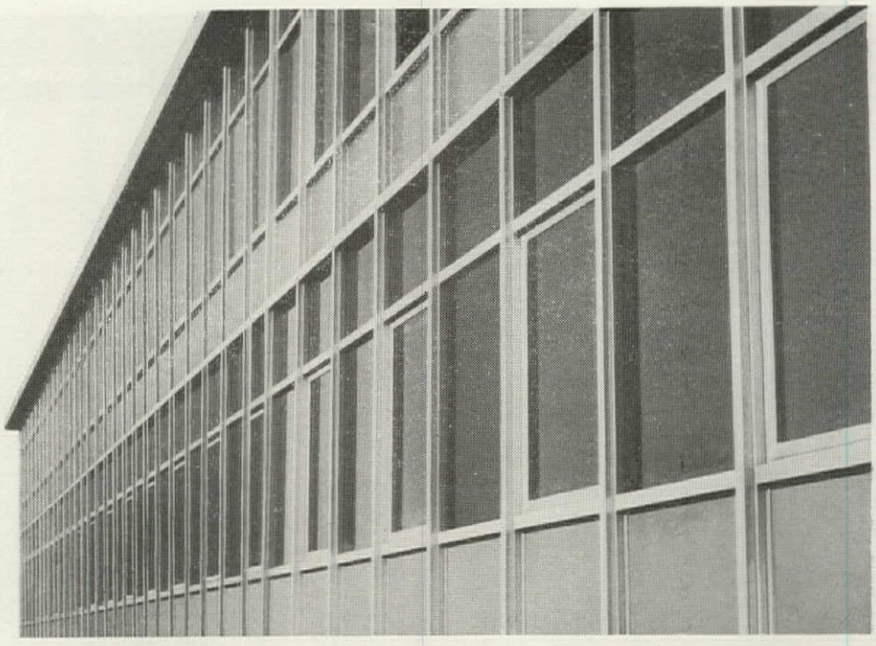
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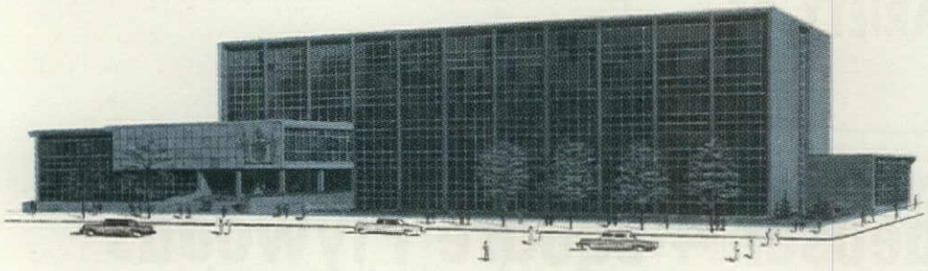
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Editorial

Capitol solution

It is high time that an important misunderstanding be cleared up between the architects of America and the leaders of Congress, on the question of what to do with the Capitol in Washington. And this can be done quickly, simply.

The Congress wants a workable Capitol, with certain new facilities and conveniences, which every sensible citizen—and every sensible architect—wants the Congress to have. No quarrel there. Few indeed are the architects who would like to see repeal of the congressional building program.

But Public Law No. 242 passed by the 84th Congress says that these real needs are to be met by a specific architectural solution: a certain "Scheme B" inherited from a 1905 study. This fact alone is the reason for the present architectural uproar.

Scheme B would mean tearing down the historic East Front of the building and re-erecting it farther forward. (Scheme B, let it be said, was not even advocated by those who formulated it; they said explicitly that they didn't really favor it even then.) This "Scheme B" extension of the East Front is what is solidly opposed by the majority of architects and by the great weight of historical and architectural criticism: on grounds of beauty, symbolism *and* utility.

Does this mean that Congress must start all over again if it is to meet the architects' objections? Must there be delay and major readjustments? Not at all. The architects' objections can be met and the uproar stilled by one, possibly two, quick, simple steps by Congress:

1. Strike out of the legislation the reference to "Scheme B."

This will free the architectural consultants who have already been at work on the problem to make their own best uninhibited solutions.

Today they are not at liberty to do this. They are like doctors compelled to make a prescribed prescription. They are allowed to advise only how to work out solutions that include moving the East Front. It's the law.

The names of these three architects are: Henry R. Shepley, Arthur Brown Jr., John F. Harbeson. (Although certain other architects have been individually vocal and officially quoted on the Capitol problem, only these three are the official consultants, and their lips are accordingly sealed.)

There are certain strong reasons to believe that solutions have been reached by this committee, which would not only leave the East Front alone but would be functionally easier to plan and build, cleaner, and less costly in obtaining the purposes of Congress.

2. If any doubt remains in the minds of Congress leaders about the real trend of opinion among architects, let them hold open hearings,

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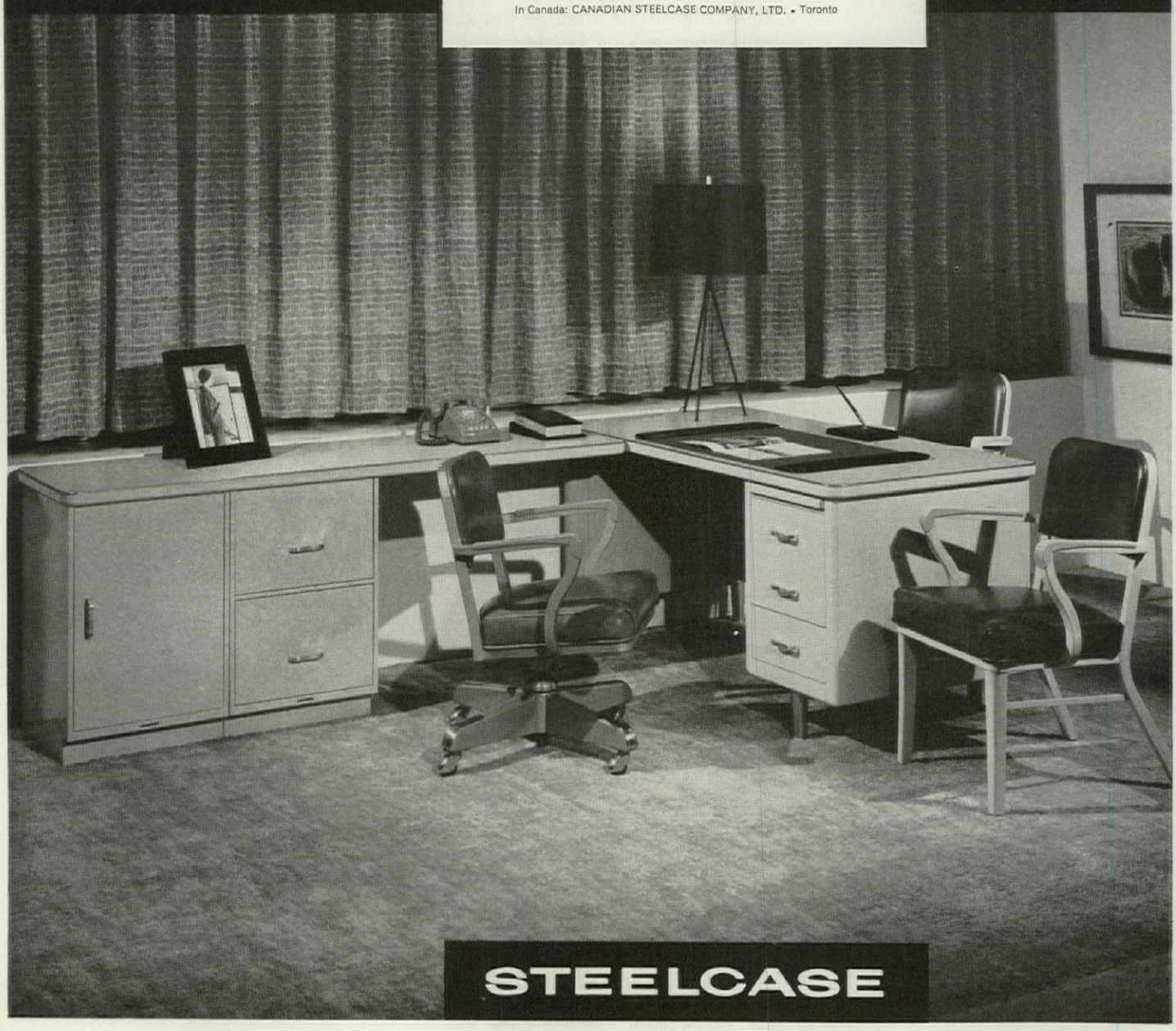
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well announced. The present appropriations were passed without the benefit of open hearings.

In these simple ways a needless conflict could be cleared up between the political leaders of America and the cultural leaders they should be depending on.

Nobody is more anxious than the architects of America that the Capitol be workable as well as beautiful and symbolic. Nobody is less anxious to have the grand old building gradually deserted and converted into a museum piece. Congress need only yield on this detail of its program, this East Front notion which is not essential for the Congress, and which the architects in convention have voted against in 1939, 1949, 1955, 1956 and again in 1957 at their centennial convention a few weeks ago, when a standing vote revealed an overwhelming majority against it. Congress will then find in the architectural profession its most effective friends, and a fine cultural heritage will stand useful but unmolested.

Fictitious architects

One mark of recognition for architects in America can be noted in their increasing use as characters in fiction, movies, radio and TV; and as stand-ins for advertising. Until the appearance of Howard Roark in Ayn Rand's *The Fountainhead,* Claudia's husband David, created (as they say) by Rose Franken, was the only known architect in these areas. Since that time the trend has developed rapidly.

In fiction, two recent novels have had architects as central characters: Frank Norris' *Tower in the West* and Edwin Gilbert's *Native Stone.* The latter was recently issued in a paper-bound edition with Architect Rafferty Bloom holding a T-square between himself and the female at his side, with the inevitable embellished version of Frank Lloyd Wright's "Falling Water" as a backdrop.

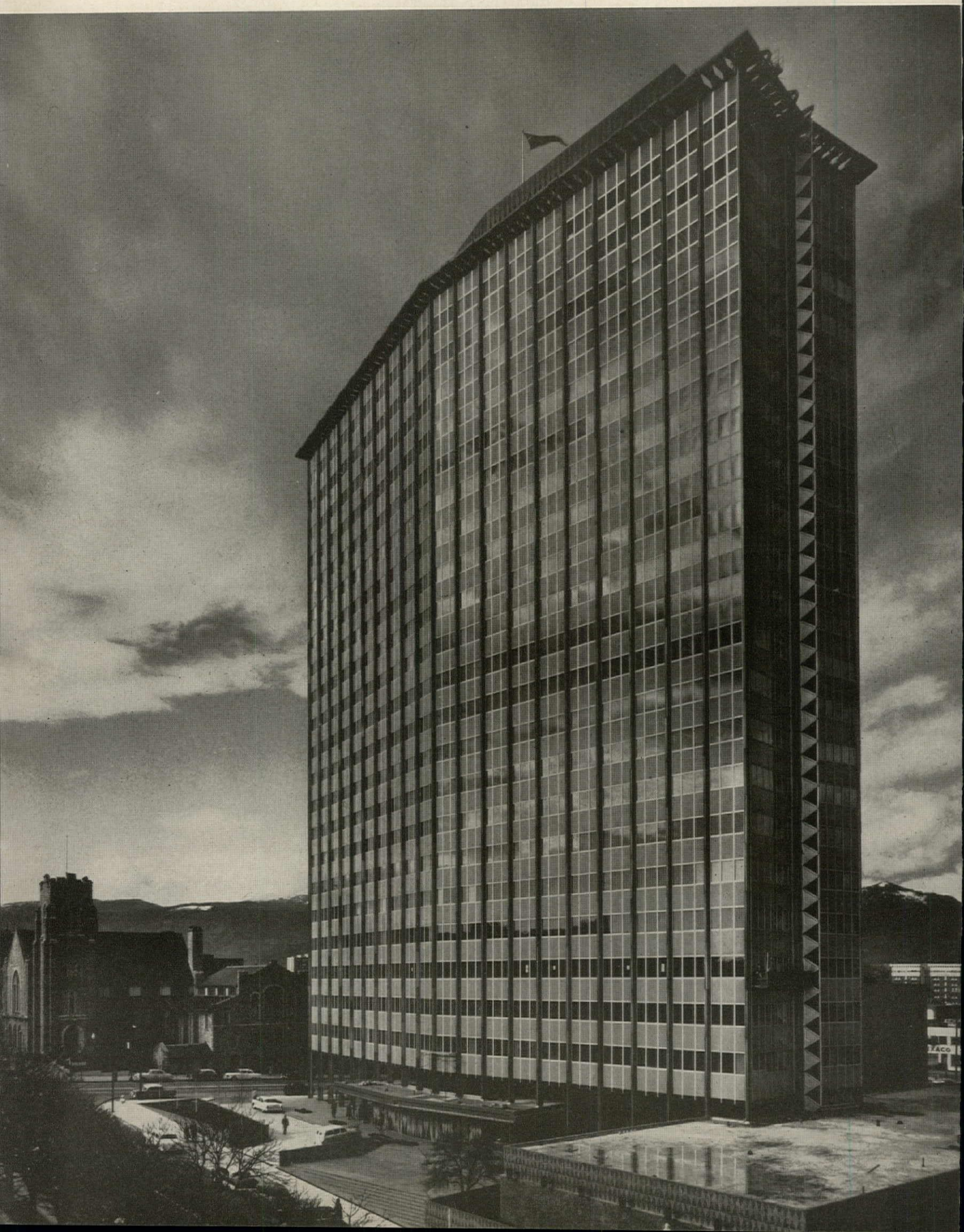
In the movies and TV, there is the example of the television play *Twelve Angry Men,* which was recently turned into a movie with Henry Fonda playing the central character: an architect on a jury, who starts as a minority of one and ends up bringing the other eleven members to his point of view.

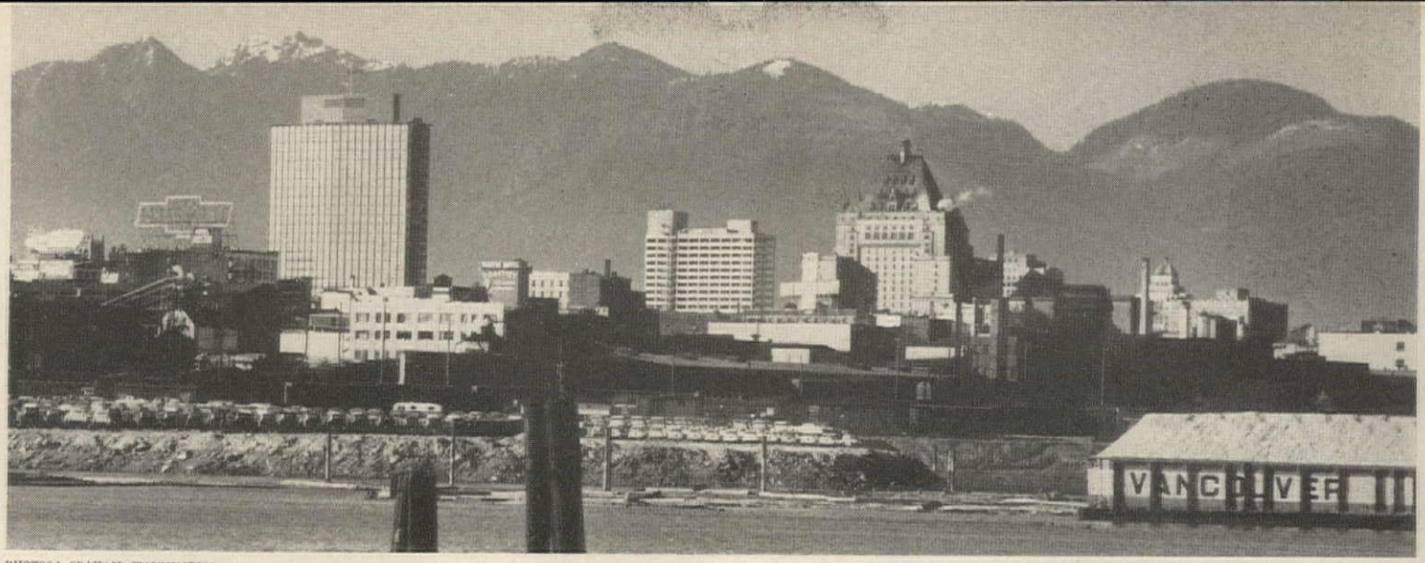
In radio, the CBS daytime drama, *Right to Happiness,* has had an architect of high principle around for some time as a counter to the various swindlers and other low characters who try to take advantage of the widowed heroine and her teen-age son.

In advertising, the architect has recently been seen wearing the Hathaway shirt, using a Soundscriber pocket dictating machine in a construction shanty and feeling secure among a gang of construction workers because he carries New York Life insurance.

Our rather casual survey indicates that architects have long passed dentists in this traditional American folklore and are now neck and neck with medical men. Some of this is due to the adaptability of the architect image: he can be tatooed and tough, or thin and soulful; he can be country tweedy, or urban flannelly; he can drive sports cars, drink Martinis and smoke pipes or filtered cigarettes; and T-squares and blueprints don't get in the way nearly so much as other trade props, such as stethescopes and white coats. And, because his time is his own, he can afford to devote some of it to interesting situations. But perhaps even more important, the architect is not a taboo subject like the banker, whom Hollywood years ago overworked as the typical villain, or the doctor, who is just now recovering from his ordeal in Hollywood.

One area, however, is somewhat neglected. So far, only one architect, Stanford White, has been the subject of a film biography.





PHOTOS: GRAHAM WARRINGTON

A tower built like a tree

Because its structural brawn is concentrated in a highly developed mechanical core, this tower gains a clean perimeter for offices

"Take a stake and drive it into the ground. Fasten 21 paper plates to the stake and hold them up at the edges with toothpicks." So Architect C. E. Pratt describes the structural system of Vancouver's new B. C. Electric Building. However vivid this description may be, the real significance of this building is in the kind of stake Architect Pratt used. He has simply taken the "mechanical core" which exists at the center of every tall building —the fireproof enclosure which houses elevator shafts, stair wells, sanitary stacks, air-conditioning ducts and electric conduits—and converted it into the structural backbone of the building. Not only does this convert a necessary evil into a structural virtue, but it leaves no columns at all to obstruct the big ring of office space around the core. Out at the periphery Pratt's "toothpick" columns hold up the outer ends of the floor beams radiating out from the core. These columns are a mere vestige of the usual heavy columns of the conventional steel or concrete cage, because so many of their duties, such as wind bracing, have been transferred to the main structural trunk.

This fresh, integrated thinking, which dealt simultaneously with the structural and mechanical aspects of the building, has many further subtleties and advantages. The air-conditioning design that goes with it is unique too: a central system coming up through the core, with a lateral ring at every floor throwing conditioned air out toward the windows in such a way that the usual auxiliary system of air conditioners at the windows is no longer needed. Not only does this idea cut down equipment expense but, like many a neat idea, it has some neat consequences in design, for there is no need for vertical ducts around the periphery of the building, either directly inside or outside the wall. So, too, the space beneath windows is left clear, and simple modular space division is possible in both directions, allowing easy shifting of partitions whenever desired.

Finally, this integrated structural-mechanical design requires far less vertical space than conventional systems. In the typical "modern" office building, a floor-to-floor height of 12′ often works out to a tight, minimal ceiling height of about 8′-6″ for occupants because nearly a third of the total height is required for structure, lighting and power systems, and air-conditioning distribution. In the Vancouver building, on the contrary, a floor-to-floor height of 10′-9″ leaves a ceiling height of 9′ free and clear. Subtract 1′-3″ of gross height at every floor and this 22-story building comes out better than two stories lower than a conventional building of equal capacity, with that much less to pay for in building cubage. Saving two stories plus in 22 is no mean achievement, delivered by the architects and engineers to the British Columbia Electric Co.

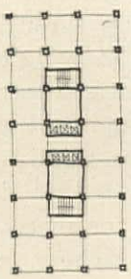
Architectural expression of B. C. Building's structure is exceptionally good: the central core is visible at both top and bottom, and the thinness of the columns makes it obvious that they do little work.

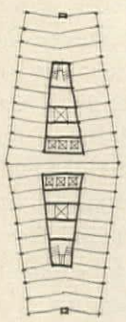


Inside the core: first floor elevator lobby

B. C. ELECTRIC CO. LTD. HEAD OFFICES, Vancouver, B.C.
ARCHITECTS: Thompson, Berwick & Pratt
C. E. Pratt (partner-in-charge)
ENGINEERS: O. Safir (structural)
Fred N. Severud (structural consultant)
D. W. Thomson (mechanical)
M. A. Thomas (electrical)
GENERAL CONTRACTOR: John Laing & Son Ltd.

Structural system makes core walls load carrying





The obvious precedent for the B. C. Building's structure is the tree. Its reinforced concrete core is like the cellular structure of the tree trunk, carrying the circulation and services; the bracing basement walls are like the tree's roots; the beams that spread from the core are like branches; the thin floor slabs are like leaves.

But the building was practically conceived; the precedent does not dominate the result. Evidence of this is apparent in the thin columns which take part of the load at the outside perimeter. Because the load-carrying core does most of the work, these columns are only 14" square, with the sides angled to provide an even thinner profile on the outer edge. Moreover, they project from the building's face, leaving the inside walls flush.

In today's standard steel frame structure, exterior columns would bulk up to 3' square or more, and most of that would cut into the interior space. Moreover, in a building similar in size and shape to the B. C. Building, a double row of interior columns would probably cut the space even more.

The B. C. Building puts the normally dead load of structural fireproofing to work. This is done in two ways: 1) by changing the block or brick fireproofing around the core to reinforced concrete; and 2) by framing composite beams of steel and concrete out from the core to rest on the slim exterior columns.

The major advantage of the core to the total structure (notwithstanding the fact that it takes most of the load of the beam and slab office floors) is in its wind-bracing function. Because of its size and shape, it performs this job very well. In a 90 mph wind, deflection at the top is a mere 2¾". This not only relieves the outer columns of lateral load; it makes the standard complicated wind bracing unnecessary.

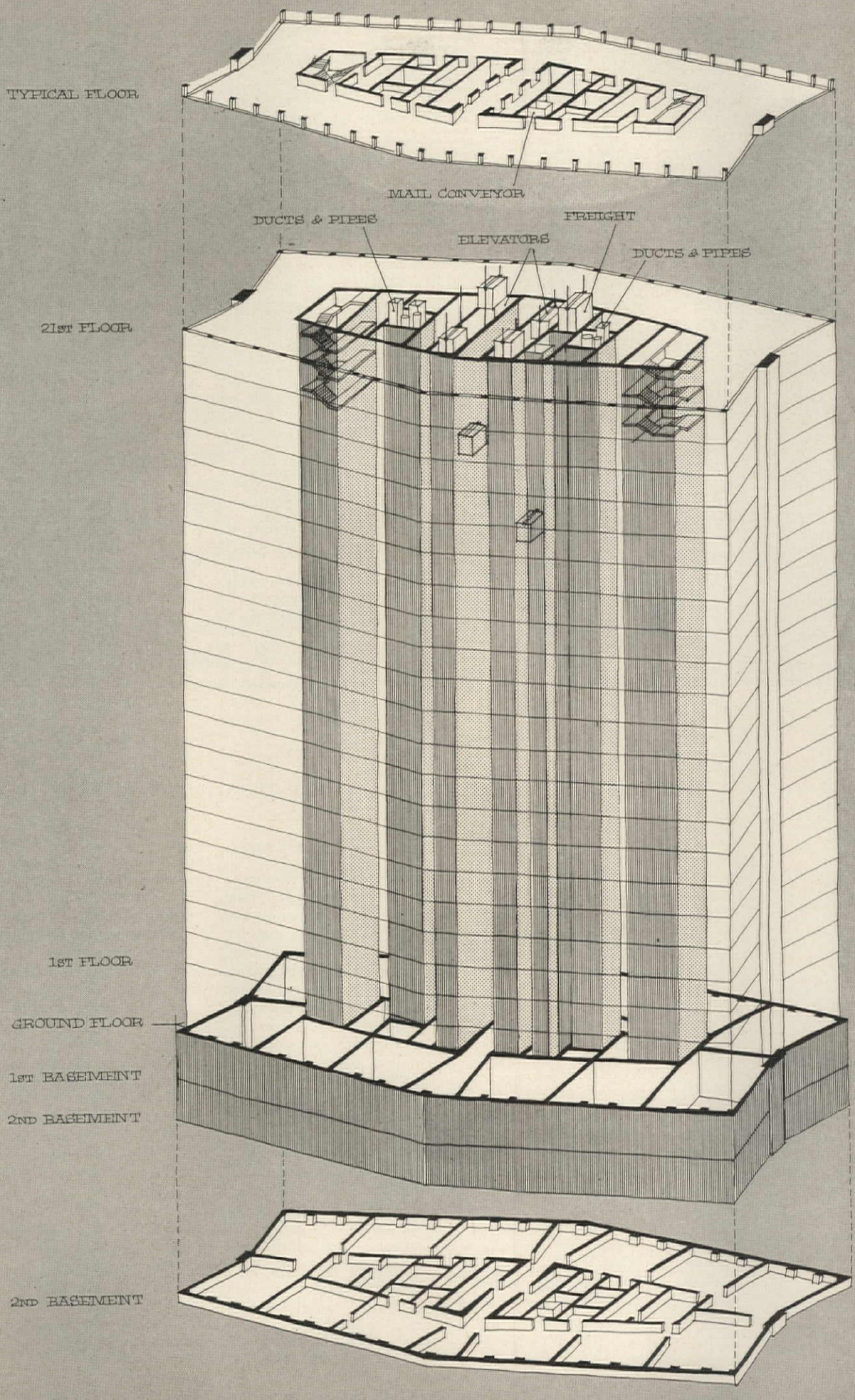
One indication of the structure's common-sense design is not obvious on casual inspection: the pylons at the ends of the building are actually extensions of the core, tied to it by a stiff double beam and slab combination. The elevator lobby cuts the core into two segments, again stiffened against each other by a beam and slab arrangement.

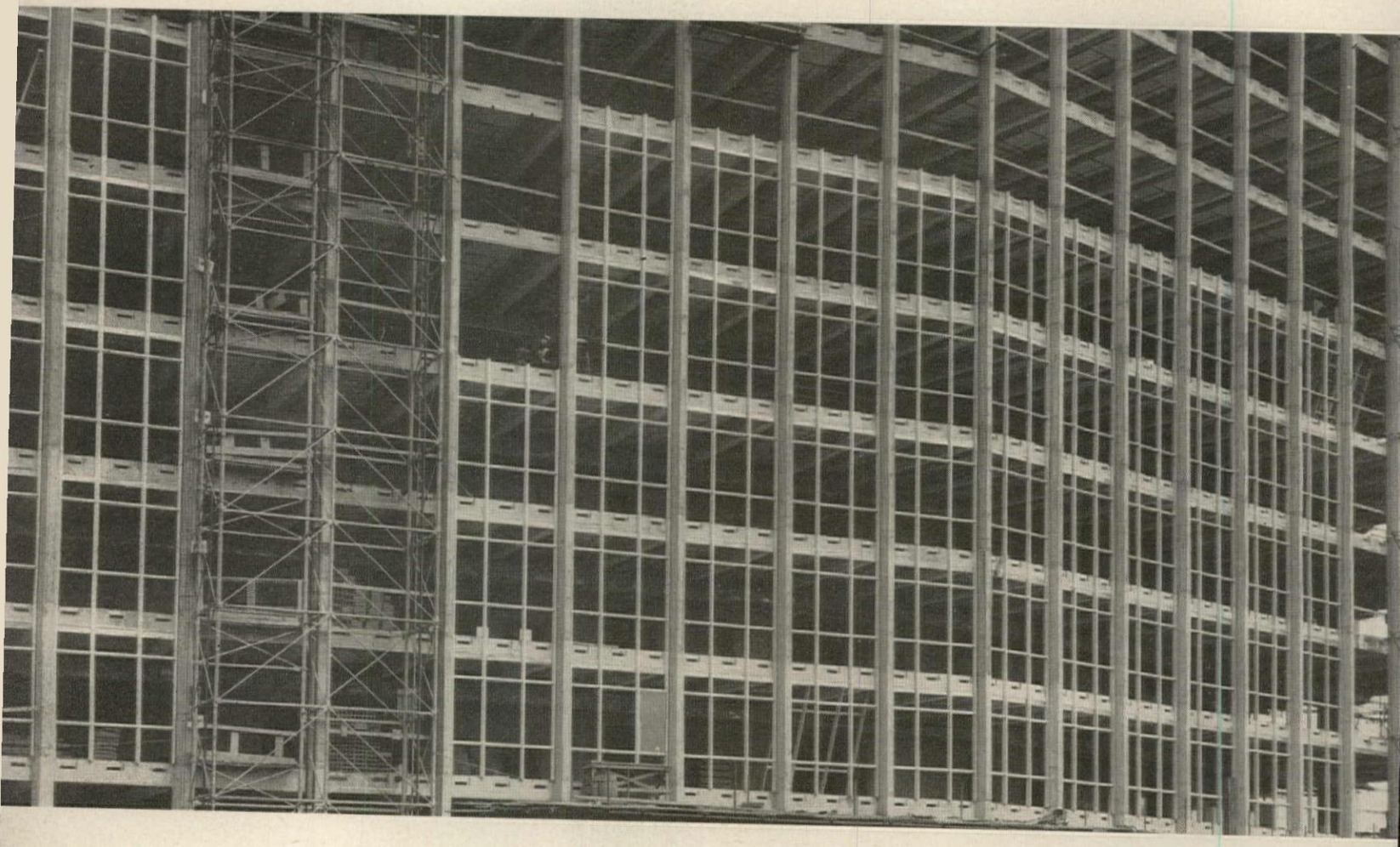
Seen thus, the core is in reality an elongated, diamond-shaped truss laid down on its side. The beams carrying the office floors frame into the truss at 10' intervals on either side.

The engineering analysis of the core was formulated around its similarity to a three-dimensional cantilever truss anchored in the ground by the bracing basement walls. By subjecting the truss to assumed combinations of live, dead and wind loads from each side, the thickness and reinforcing of the core walls was calculated.

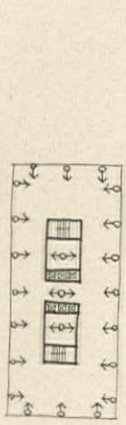
The simple arrangement of the perimeter structure in 10' x 20'-6" bays framed out from the core makes possible the unusually economical floor-to-floor distance of 10'-9" notwithstanding an ample 9' finished ceiling height. Because there are no cross beams to interfere, the lighting and return air ducts can occupy the space between beams. (In a wider building larger ducts and a deeper ceiling might be required; and, of course, larger bays would require larger beams and therefore greater floor-to-floor distance.)

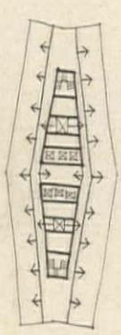
Another advantage of the bay framing is that electric power can be obtained at any point in the floor simply by removing a plastic ceiling panel in the floor below and punching a hole in the 4" slab. Ultimate flexibility is thus achieved at little cost. The clean exterior face and slim outside columns of the B. C. Building are due only in part to its structure. The rest is due to the system of air conditioning which is another part of the core idea.


TYPICAL FLOOR
MAIL CONVEYOR
DUCTS & PIPES
FREIGHT
ELEVATORS
DUCTS & PIPES
21ST FLOOR
1ST FLOOR
GROUND FLOOR
1ST BASEMENT
2ND BASEMENT
2ND BASEMENT



Mechanical system distributes air from core outward





In many a cleanly designed office building built in this age of structural expression, every other column apparent from the outside is a phony—built to contain water piping instead of structural steel. The water piping feeds the remote air handling units under each window (a combination of fan, filters, coil and controls which heats or chills the room-circulating air).

Although designers today are more commonly including the piping within a "beefed up" column enclosure, the result is the same: an irregular perimeter wall wasting the building's prime space.

Even at that, the vertical runs of piping combined with underwindow units take care of only the outer perimeter of the building—a central duct system is still needed to care for the space inside the perimeter ring.

In the thin-slabbed B. C. Building, remote window units are eliminated by using four large air-handling units per floor in the core itself—one for each quadrant of the building. These units are, in effect, stacked on shelves on either side of two vertical shafts at each end of the core section. The shafts carry all the necessary piping for connecting the units to the heating and refrigeration equipment located in the basement and penthouse. In addition, the shafts carry the ducts which supply 10% outside air to the system from rooftop intakes.

Conditioned air is taken from the air-handling units in the core into a duct which hugs the ceiling and the core walls (over normal corridor or circulation space). Diffusers are located 40″ on center (matching the building module) and about 12″ below the office ceiling along the side of the duct (photo top left, facing page). One additional diffuser per bay is placed above the transluscent ceiling panels to counteract the heat gain from the high-level fluorescent lighting.

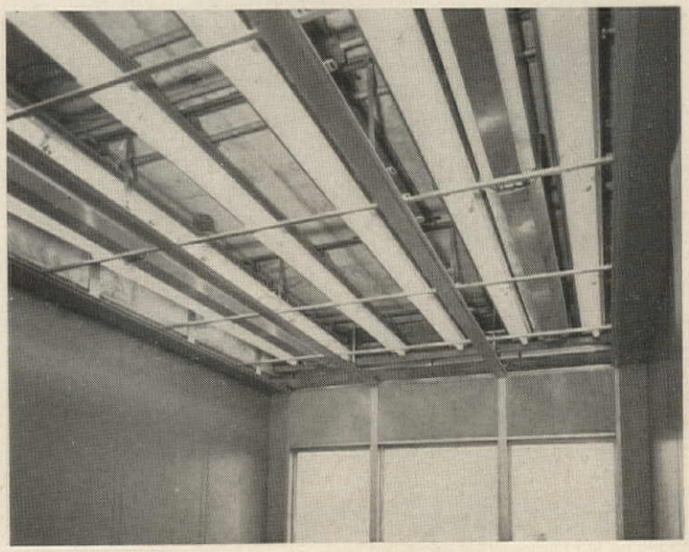
Exhaust air is taken from the office space at the window sills, collected in a header duct behind the spandrel beam and returned to the air-handling equipment in the core through ducts under the floor. (Note the rectangular holes in the spandrel beams and the return ducts in place behind them in the construction photo above.)

The uninterrupted perimeter wall is not the only gain achieved with this system. For one thing, a major gain is made in comfort conditions. By introducing cool air high in the office space, the designers have created a mixing chamber in the unoccupied area of the room, which will materially reduce drafts in the lower, occupied area.

Another advantage is the re-





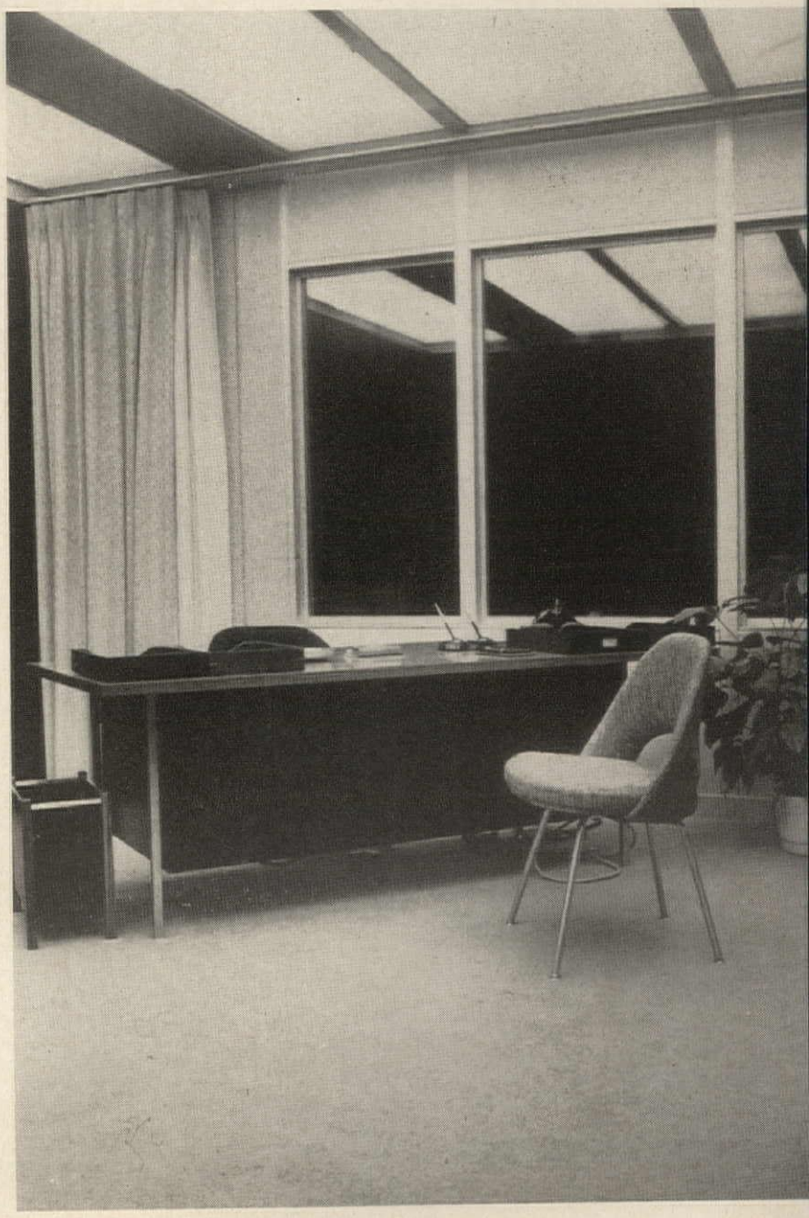


Conditioned air is supplied to offices from four mechanical rooms in the core through ceiling duct around core perimeter.

Elevator lobby on 22nd floor is occupied by receptionist for executive offices. Interiors (above & below): Knoll Assoc.

Exhaust air is taken in at the window sills, returned to core through ducts under the floor (here seen from floor below).

Window wall of offices is unbroken by structural columns or mechanical equipment, allowing maximum efficient use.



duction in the number of pieces of equipment required, with commensurate savings in initial equipment cost and operating and maintenance costs. Moreover, piping is consolidated and simplified and requires less insulation than if placed in outside walls.

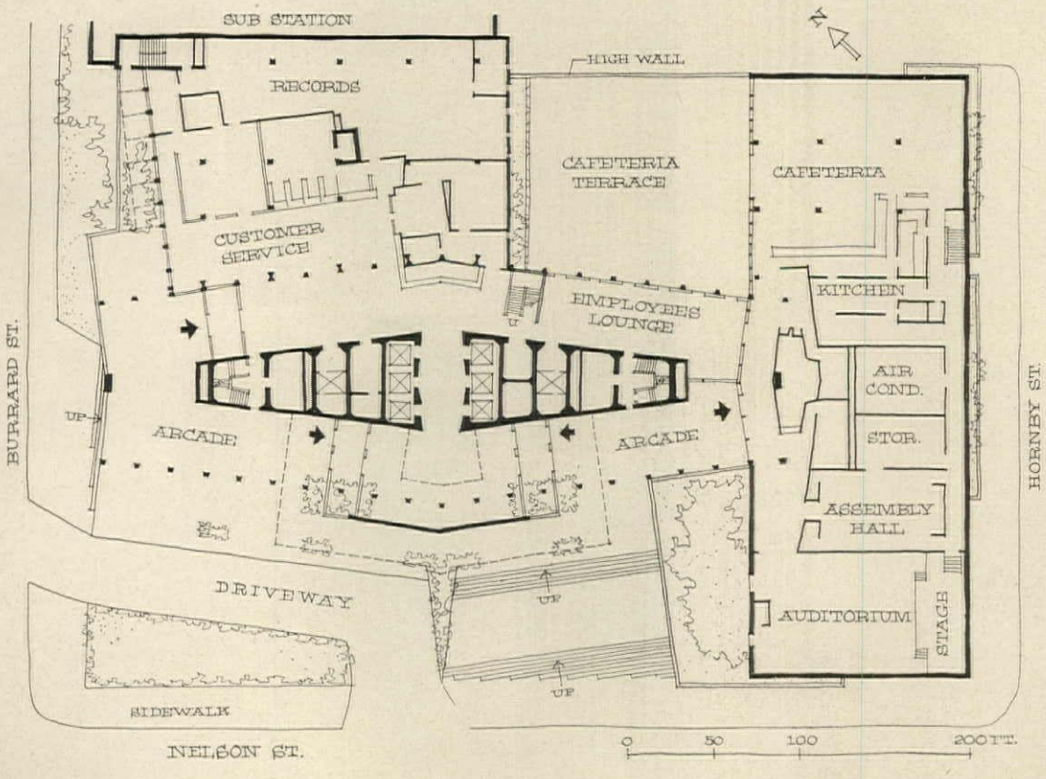
Although the narrowness (20′-6″) of the band of offices makes the internal system particularly sensible, the width of the office band could probably go to 30′ without materially affecting the system's virtues. In this case, the supply duct could be located away from the core to supply outside offices on one side and inside work space on the other. Or, for open work space, the delivery velocity could be stepped up and the diffusers angled toward the ceiling to break up the air stream and spread it further, much like the action of a garden hose spraying water against a sidewalk.



Existing substation at left (AF, Sept '54) is neatly tied to tower with setback customer service wing.



Open arcade under the tower reveals mosaic-faced structural core (left), pattern of peripheral beams and columns.



Sinewy core projects from the top of the building to form a penthouse (right), extending the building's structural idea above a gossamer skin of porcelain enamel and glass. Toothpick-thin perimeter columns are nevertheless clearly differentiated from aluminum window mullions. The slim tower stands perpendicular to Burrard St. (Vancouver's Main St.), occupies only 25% of the available lot area. At ground level (plan above), nearly 50% of the site is open. In this open space, raised planting areas abound; they are filled with specimen trees and seasonal floral plantings.



Main entry: kaleidoscopic diamonds in tile mural symbolize building shape. Mural was designed by B. C. Binning.



In the lobby perforated pattern of ceiling repeats motif of tower's cap (photo below), reechos building's shape.



The architect of the pace-setting Hartford and Dallas Statlers has a half-dozen new projects on the way, from Pittsburgh's Golden Triangle to the slopes of a Salvadorean volcano. The difference with Tabler's hotels: even the towel hooks pay off

LENI ISELIN



Bill Tabler's hotel boom

Of all today's complex buildings, few present more exacting design problems than a big commercial hotel. And there is probably no one who knows more of the tricks of this particular trade than William Benjamin Tabler, a genial 42-year-old New York architect with a pink-cheeked smile and a passion for check lists.

At the moment, Bill Tabler and his young associates are busy men —with some $50 million in construction on the boards. Preliminaries for an 800-room Pittsburgh Hilton (p. 120) have been approved, and the staff of 18 in offices atop the New York Statler is being more than doubled to push out working drawings. Also in the works are a 300-room annex to Denver's famed old Brown Palace, a 450-room hotel for the Meyer chain in Jacksonville, Fla., a 320-room hostelry at Idlewild airport for the Port of New York Authority and Knott Hotels, a 200-room business-tourist resort in San Salvador and another in Ponce, Puerto Rico for Intercontinental Hotels Corp. (pictures, pp. 116 & 117). In varying stages of study are IHC hotels for Guatemala City and Caracas, Venezuela, big motor hotels for Winston-Salem, N. C. and White Plains, N.Y.

If current trends hold, Tabler and other hotel architects will be even busier in the next few years. As railroads created the dozens of big downtown commercial hotels and automobiles the thousands of roadside motels, so the airplane has set off a world-wide hotel boom that hotelmen hope will get new impetus from the fleets of jet airliners scheduled to enter service next year. "Do you realize," Tabler asked a group of real estate men recently, "that just one of these jets will be able to carry as many people a year as the *Queen Mary?* For all but a few flying hours they'll need hotel accommodations."

What fascinates Tabler and others about hotels, aside from this prospect of big future jobs, is the challenge of organizing a whole cross-section of properties under one roof, and making the total both attractive and profitable. A big-city hotel today has the circulation problems of a major terminal, the housing problems of a dormitory with daily turnover, the feeding and entertainment problems of restaurants and meeting halls, the store rental problems of a fair-sized shopping center. "Back of the house" are the service, utility and maintenance problems of a miniature city: heating-cooling plants, laundries, employee dining rooms, furniture and TV repair shops. The new Dallas Statler Hilton, with 1,000 rooms, for instance, actually can hold something like 10,000 people, and its laundry room could serve a town of 25,000.

The big difference today, compared with the last great hotel boom of the tens and twenties, is, of course, labor—both to build and to operate. The rise in construction costs is well enough known. But in the last 20 years alone, hourly wages of hotel employees—always the largest single item of hotel expense—have increased 244%. In the same period, room rates, still the major source of income despite all the fancy bars and ballrooms downstairs, have increased only 172%.*

In today's hotel, economies of service and maintenance have to be built into every detail.

Design team: Bill Tabler (seated) helps one or two of his young associates develop and manage each hotel job from start to finish, calls in the others for frequent bull sessions. Associates and their jobs (l. to r.): David P. Dann, 32 (Dallas, Pittsburgh); John B. Robinson, 37 (Idlewild); Eugene R. Branning, 37 (Pittsburgh); Ray C. Giedraitis, 34 (junior associate in charge of Denver); John C. Mayer, 33 (Jacksonville and Salvador).

No crepes suzette

Here are the rules-of-thumb Tabler uses to check out a projected commercial hotel:

1. *Construction cost per room no more than $1,000 per dollar of average room rate.* If a hotel wants to make a fair profit on a $10 average room rate, for instance, total contract cost, including all public and service areas, should not exceed $10,000 per bedroom. "Commercial hotels costing more than this," says Tabler, "must have other sources of revenue or be prepared to go through the wringer as they have in the past." Tabler's Hartford and Dallas Statlers (acquired by Hilton with the rest of the chain) were built just under the $10,000 mark and are reported to be making among the largest "house profit" percentages (before fixed charges) of any hotels in the country.

2. *Bedroom floor area equal to or greater than total public and service areas.* This is what for so many years kept the Statler chain out of secondary cities that could not support a hotel of 1,000 rooms or more; below 1,000 rooms Statler found it could not reduce public and service areas proportionately, and the result was less profitable (until Hartford, where eight years of research and tight planning made a 455-room hotel possible). "The necessary public and service areas," according to Tabler, "have

* 1956 year-end survey of 400 US hotels by Harris, Kerr & Forster, hotel accountants and consultants.

Bedrooms on a budget:

been running up to 60 to 65% of total construction costs, and that is why we have had to reduce bedroom sizes in recent years to compensate. To some hotelmen it is glamorous to have the biggest night club or the longest menu, but we feel it will be more profitable in the future to have bigger bedrooms and fewer crepes suzette."

3. *Less than one employee per room.* Statler used to average about as many employees as there were bedrooms. In Hartford, though, rising labor costs finally forced design innovations that reduced this figure to 370 employees for 455 rooms, and in Dallas to 600 for 1,000 rooms. (In contrast, Houston's plush Shamrock opened in 1949 with 1,900 employees for 743 rentable rooms, gradually "shook down" to a mere 1,200. Originally laid out as a residential hotel, the Shamrock nearly cost Oilman Glenn McCarthy his shirt when converted to transient use. New owner Hilton has subdivided suites into smaller bedrooms, enlarged dining facilities and made other improvements, but the hotel is still not an outstanding moneymaker.)

4. *Land cost no more than 10% of building cost.* It is unwise to go above this unless you can get it back in unusually lucrative ground-floor rentals or other "outside" sources such as appreciation of surrounding property.

5. *Design to break even at 60 to 65% occupancy.* The national average of hotel occupancy sank to 61% in 1938, rose above 91% in 1945 to '46, in the last three years has leveled off at about 73%. When occupancy drops off over week ends, holidays or low years, Tabler's new hotels can reduce costs by shutting down floors, using segments of total kitchen equipment.

6. *Net bedroom area at least half of typical-floor gross area.* When bedrooms are widened above this point, resulting longer corridors and greater outside wall area make it uneconomical.

7. *At least a 20 sq. ft. difference in room size for two different price ranges.* Tabler has found through use of bedroom mockups and visual design tricks that the average guest cannot detect less than this differential. Recommended minimum bedroom sizes: 90 to 110 sq. ft. for singles, 130 to 150 sq. ft. for doubles, 160 to 180 sq. ft. for twins.

8. *The money is still in the bedrooms.* Departmental profit margins may be anticipated at 70% on rooms, 50% on beverages, 20% on rentals, and down to 0% on food. Today, meeting and feeding facilities exist primarily to bring people into the bedrooms, especially the convention trade. Most hotel operators and accountants try to show a small profit on food, but often they are not charging off the initial costs of dining rooms and kitchen equipment on their food statements. The big hotel dining room with its long menus and lavish entertainment is becoming a thing of the past; operators are turning more and more to "specialty" restaurants—"Rib Rooms," "Polynesian Villages," etc. —where a limited specialty menu can be served at high and profitable prices. Such rooms are, of course, excellent attention-getters, especially for local businessmen on whose patronage a hotel must depend.

Shakedown cruise

If Bill Tabler is being sought out as a leading specialist in hotel design, his background and methods may hold more than passing interest for other architects. After leading his Harvard class through civil engineering and a master's degree in architecture (a nine-year program telescoped into seven), Tabler joined Chicago Architects Holabird & Root in 1939 at $15 a week, worked up to field superintendent on their Washington, D.C. Statler (AF, June '43) before leaving for three years as a Navy construction officer in the Pacific. On his return, Statler Senior Vice President H. B. Callis, who had been impressed with Tabler's grasp of detail, took him on and sent him around Statler's chain of eight hotels to study them and suggest ideas for modernization. Tabler spent six months or

PHOTOS BELOW: ADOLF STUDLEY









seven Tabler hotels

Hartford Statler, Tabler's first hotel job on his own, opened in 1954 opposite Connecticut's state capitol. The product of long research, this 455-room hotel pioneered a 1¼"-thick metal curtain wall, efficient bathrooms, flexible public spaces (see overleaf).

Hotel Robert Meyer in Jacksonville, Fla. will lure motorists downtown with 150 spaces in two parking basements, made possible by moving the mechanical service areas to the third floor (behind a band of air-intake louvers). The concrete frame and block walls are exposed.

International Hotel, designed for new York's Idlewild airport under N.Y. Port Authority control, is efficient but architecturally unexciting. Its 320 rooms, restaurants and meeting spaces for air travelers will be operated by the Knott chain.

Ponce, Puerto Rico job for Intercontinental Hotels Corp. and an investment group will have 204 semicircular balconies overlooking the swimming pool, the town and the Caribbean. The consulting architect was Henry J. Stojowski, a former Tabler associate.

Dallas Statler-Hilton, finished early in 1956 under the new owner's label, adapted many of Hartford's economies in its 1,001 rooms, brought construction cost below $10,000 per room with flat-plate concrete floors cantilevered from two inner rows of columns.

Brown Palace West in Denver will be a 288-room tower linked by a bridge to the parent hotel, echoing its rounded corners and brown masonry face. To be built for $10,000 a room, it will have a ballroom seating 650, and a garage for 80 cars underneath.

Hotel El Salvador, now rising on a volcanic hillside a thousand feet above city of San Salvador, has 204 balconied rooms, special frame and foundations against earthquake. Entrance is at near end between long rows of shops which will have corrugated roof.



© EZRA STOLLER



WILLIAM LANGLEY

LOUIS CHECKMAN



Tabler's design details

more measuring all kinds of spaces, talking to department heads, questioning why a kitchen or service bar or laundry room in one hotel had to have twice the area to do the same job as elsewhere. When plans for a new Los Angeles Statler came under consideration, Tabler asked for the chance to use his sheafs of checklists and managed to cut a million cubic feet out of the design. A few years later he got the chance to do his own hotel, the Hartford Statler, and from his accumulated research turned out a building that became a model for medium-sized cities (AF, April '53). Between Hartford and the subsequent Dallas Statler (AF, June '54 and April '56), Tabler worked out an array of ingenious cost-saving features, some being adapted to hotels now on the boards:

A single central kitchen as near the hub as possible so that waiters have short walks in all directions to coffee shops, supper clubs, banquet rooms, room-service elevators. One-way circulation is carefully worked out so that waiters move fast and food is hot on arrival.

One huge ballroom, removed from under the bedroom tower and its forest of columns, and flexibly divisible by sliding or folding partitions into as many as five rooms for any sized meeting.

Simplified construction, as Tabler pioneered at Hartford in cantilevered flat-plate slab construction and thin (1½") porcelain enamel sandwich curtain walls. The concrete frame of his new Jacksonville hotel will be left exposed and will be infilled around the windows with a good grade of block that does not have to be plastered as so many local buildings are. Foundations are carefully studied to fit particular site conditions and save money: Pittsburgh will have an unusual "boat" basement, Salvador special earthquake pads that ride on a cushion of volcanic ash instead of going down to bedrock.

Repetitive economies, as represented in Tabler's now-famous bathroom (opposite). Plumbing is back to back and cut to a minimum; an elongated washbasin counter and angled toilet double as makeup table and chair; towel racks are next to the bathtub so guests will dry themselves in the tub instead of using bathmats; a towel hook is placed so they will reuse hand towels instead of reaching for a new one (which Tabler points out can save $7,000 a year alone in laundering costs, or enough to finance another $100,000 worth of construction). Single light bulbs and sinks with simple rubber stoppers are so easily accessible that maids can service them instead of having to call in maintenance. A 5" gap above bedroom closet door allows the closet light to double as hall illumination; windows swing in and up for quick washing from inside. In Denver, Tabler may even remove the "up" and "down" signal lamps from elevator doors on each floor and hang them from the entrance to the elevator cab itself, saving 100 fixtures at $50 each.

Chefs and clients

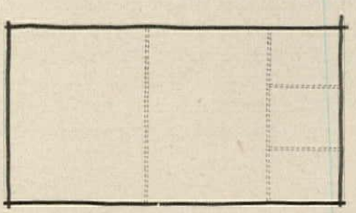
Tabler's acute cost-consciousness, animated by specific figures, often comes as a pleasant surprise to clients inclined to think of architects as expensive dreamers. He also performs a valuable function the client often cannot perform for himself: if a chef, for instance, squawks about too little space in the plans for his pastry department, Tabler can politely quote from his mental file that such-and-such a hotel has only 1,000 sq. ft. for pastry and does very nicely with it. In keeping the chef from swallowing the housekeeper and the maitre d' from swallowing the chef, Tabler's technique illustrates the balance-wheel value of the architect in any corporate building project.

Tabler is close enough to costs so that his approach to fees doesn't frighten away clients, either. In his projected addition to Denver's Brown Palace, for instance, he simply told the owner, C. K. Boettcher: "I think we can build this hotel, as we have done elsewhere, for about $10,000 a room, or $3 million for

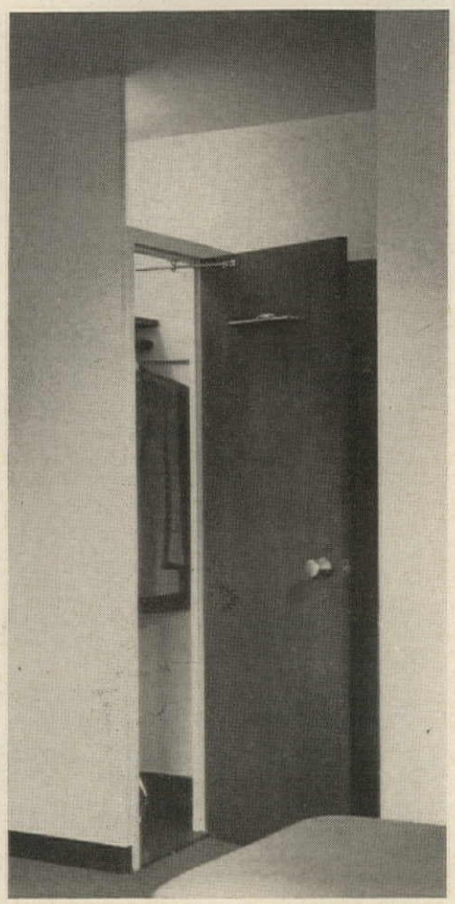
MEISEL



Flexible function rooms in most of Tabler's hotels allow one big space to double as banquet and meeting rooms for groups of several sizes. Above, double soundproof partitions are rolled into place to subdivide the Dallas Statler-Hilton ballroom. Below, diagram shows similar "five-in-one" ballroom for the Meyer hotel in Jacksonville.

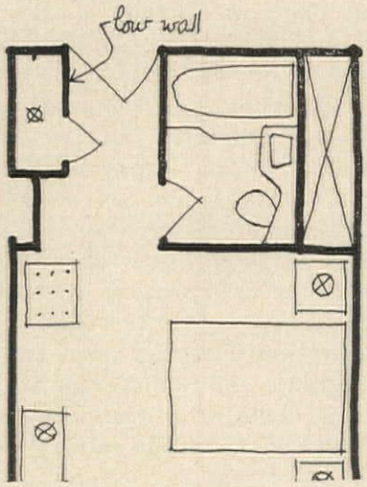


add up to big economies



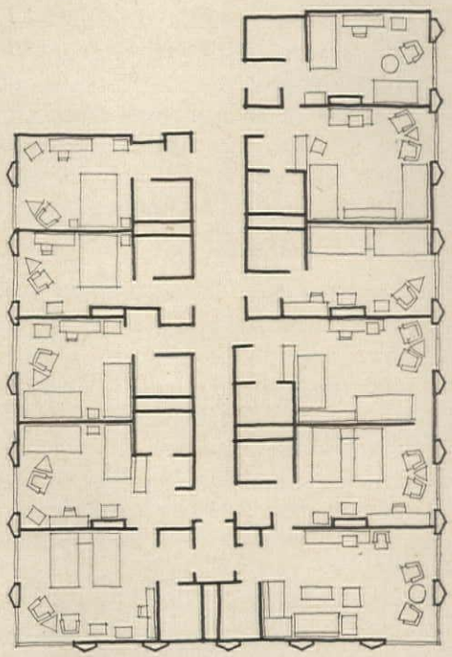
MEISEL

Careful detailing means large savings when multiplied by 200, 500 or 1,000 hotel guest rooms. In Hartford and Dallas, for example, the closet lights (left) switch on at the room entrance, lighting the hall through the ceiling gap and eliminating an extra fixture and switch. Bathrooms (right) are reduced to 4′-10″ x 6′-7″, yet mirrors make them seem larger. The toilet is angled to let the door swing in and to serve as a seat for the makeup shelf extension of the special washbasin. The maid can change the single bulb over the louvered towel rack, and plumbing is easily accessible through the back of the cabinet.



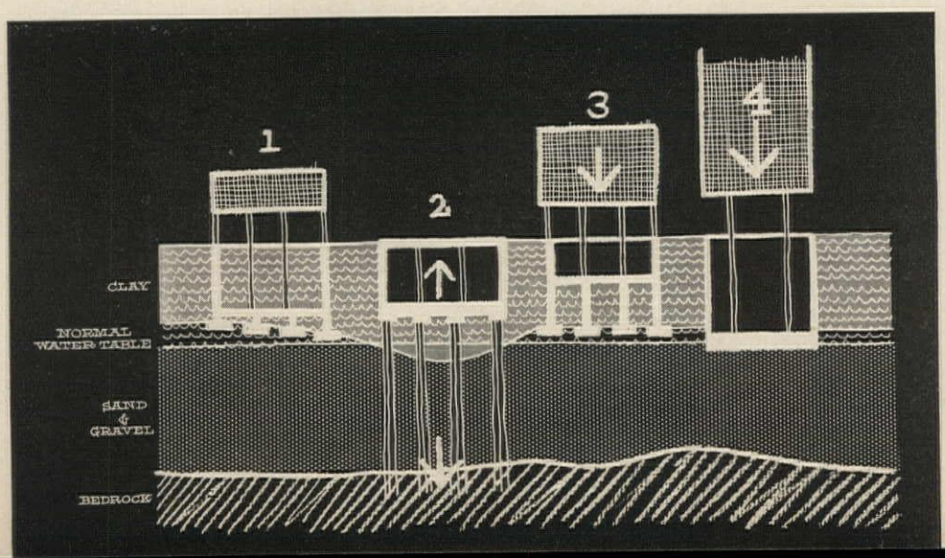


EDWARD SAXE STUDIO



Variety in bedrooms, vital to successful hotel operation, is worked out by Tabler within strict framework of standardized structure, equipment and furnishings. A segment of a typical floor for the Pittsburgh Hilton (above) shows how partitions and furniture are moved to yield many different room sizes and arrangements. The beds can even be placed along the outside wall where solid sections occur between floor-to-ceiling windows. The hollow triangular mullions house air-conditioning risers and TV conduit and give the façade a big "picture frame" pattern (overleaf).

Special foundations for the Pittsburgh Hilton were devised as an economical way of licking the water-pressure problem common to low river land. Whenever ground water rises, a basement not designed for pressure must be allowed to flood, risking damage to its contents (1, below). If dryness is required, the basement slabs and walls must be beefed up against pressure, but then the basement becomes a caisson or "boat" that will try to float up out of the ground with the rising water. To combat this, some Pittsburgh buildings are tied down by expensive tension piles driven to bedrock far below; this is particularly true for very low structures like underground garages which have insufficient weight above to hold them under (2). For the Hilton, however, Tabler and Engineers Seelye Stevenson Value & Knecht hope to have a cheaper system. Columns of the three-story ballroom section (3) will rest on spread footings which go down only as far as solid subsoil, and the ballroom weight will hold down a 12′ pressure basement containing various storage and employee facilities. A deeper basement for the hotel's big machinery (4) is held down by the heavier bedroom tower, whose columns rest on a continuous spread footing.



the 300 rooms. I'd prefer to do the job for a flat fee of $180,000 including engineering, which amounts to 6% of our estimate, instead of the usual 6% of actual construction cost. If we don't hold it to $3 million we shouldn't get 6% of the extra cost. But if we do, or bring it in under our estimate, we have certainly earned our fee."

Like other architects, Tabler often has to contend with a basic misunderstanding of his professional worth. One experienced hotel operator who had never actually built a new hotel before looked at a building Tabler had sweated down below $10,000 a room and asked what percentage fee he charged for it. "About 6%," replied Tabler. "About 6%," eh?" said the hotel man. "Why that's exactly what our other architects charge us—you don't save us anything at all!" It takes a bit of explaining that the real savings are in the building's lower cost now and for years to come, not in a smaller fee.

Back at the office . . .

In Tabler's office, unlike some others, one or two associates captain each job from start to finish, conferring with clients, developing the design, supervising production of working drawings, visiting construction in the field. There are no "design men," "office men" or "field men." The result is that each job captain, besides developing as a more rounded architect himself, can serve the client with a more intimate knowledge of the job. Tabler also makes a practice of taking on ten or a dozen college undergraduates every summer to help with working drawings, gives them their head to develop detailing and interior design ideas. He also has a program of 12 weekly talks (schemes for hotels, bedrooms, bathrooms, office practice, working drawings), last year took 30 staff members and wives on a week-end jaunt to Hartford for a critical room-by-room tour of the new Statler.

How about future hotels? Aside from the obvious trend to air conditioning, television and self-service elevators for old as well as new hotels, Tabler and others are looking to mechanization to cut down ever increasing payrolls. In addition to central reservations boards, such as those used by Hilton and Sheraton, chains are considering central accounting computers to reduce the large chit-counting departments and instantly relay bills when guests check out. (It has been suggested that one such computer might be shared by a group of nonchain hotels in the same city.) Direct-dial telephones are now being installed in Hilton's New York Waldorf Astoria on a pilot basis, may cut the number of operators required there and in the Pittsburgh Hilton by 30 or 40%. Other labor-saving ideas still aborning: message lights on guest-room telephones indicating a taped call awaiting; automatic tabulation of telephone charges; recorded good-morning - time - and - weather calls; room - number information lists flashed on television screens in front of operators; registration by two-way television from the curb or from railroad stations and airports; corridors and back entrances monitored by television "eyes" controlled by the desk clerk, house engineer or a single watchman; kitchen conveyor belts carrying complete prefrozen dishes under special quick-heating warmers out to waiters.

Some day the weary traveler may be able to drive directly to his tower-floor bedroom, take his own ice cubes out of a refrigerator without waiting half an hour for room service, recline on a mattress adjustable to hard, medium or soft, in front of a radio-televison screen that can also be turned on by the front desk to warn him of anything from an air raid to a noisy party. But if one trend toward efficiency continues, he won't be able to indulge in that most ancient of hotel pastimes: lobby-sitting. Lounges in new hotels are being tucked off to the side out of the way of elevators and front desk, and reduced in size to discourage free-loaders from the street. Soon there may be no free seats at all.

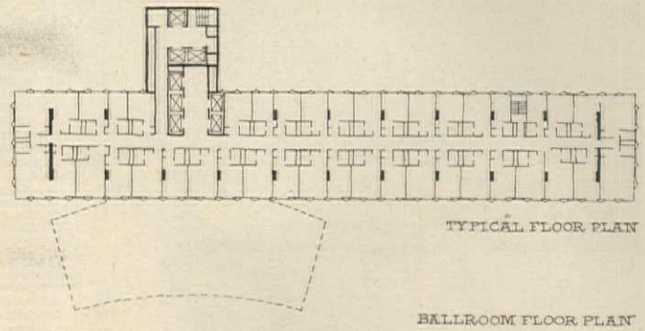
Tabler's big job: Pittsburgh Hilton

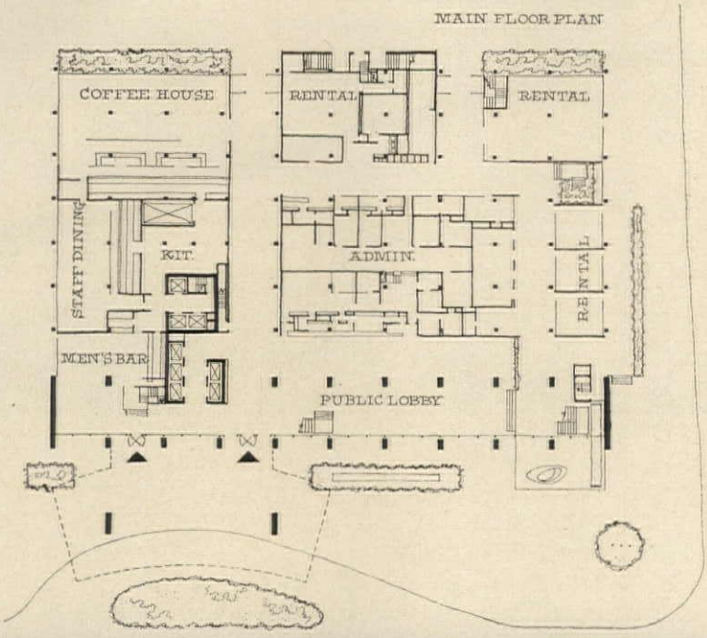


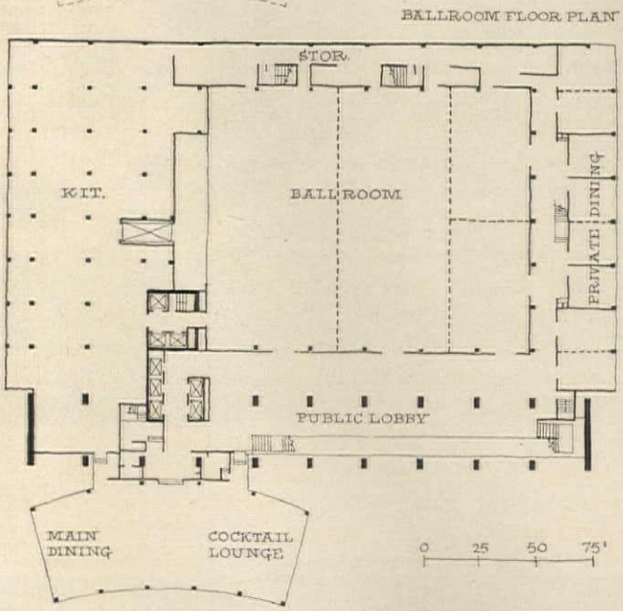
In the golden triangle this fall excavation will start for the $15 million Pittsburgh Hilton. It will rise in front of Equitable Life's Gateway Center office towers, on land and mortgage lent by Equitable. By late 1959 guests in most of the hotel's 813 rooms will have a sweeping view of Point State Park, the rivers and the new expressways and bridges. The plans (opposite) are unusually open and clearly organized for a large, complex building. Desk and elevators are right up front and visible; foot traffic from five entrances circulates around an administrative core. A small kitchen serves a coffee shop toward the office buildings, an employee dining room liberated from the basement and a men's bar, which shares the main view with the lobby, the mezzanine and the supper club over the driveway. The bigger banquet kitchen above can be shut down over the week ends and slow periods to save money. The ballroom, removed from under the tower and clear-spanned, will seat 2,600 and can be subdivided for as many as four smaller groups. The bedroom floors, as in Dallas, are economically cantilevered from two rows of columns. The curtain wall will be anodized aluminum. For colorfastness (and to the joy of Hilton and Pittsburgh publicists) the color will probably be—gold.



Eight schemes of the 15 considered were made into models, dropped in place by Tabler to explain design's development.

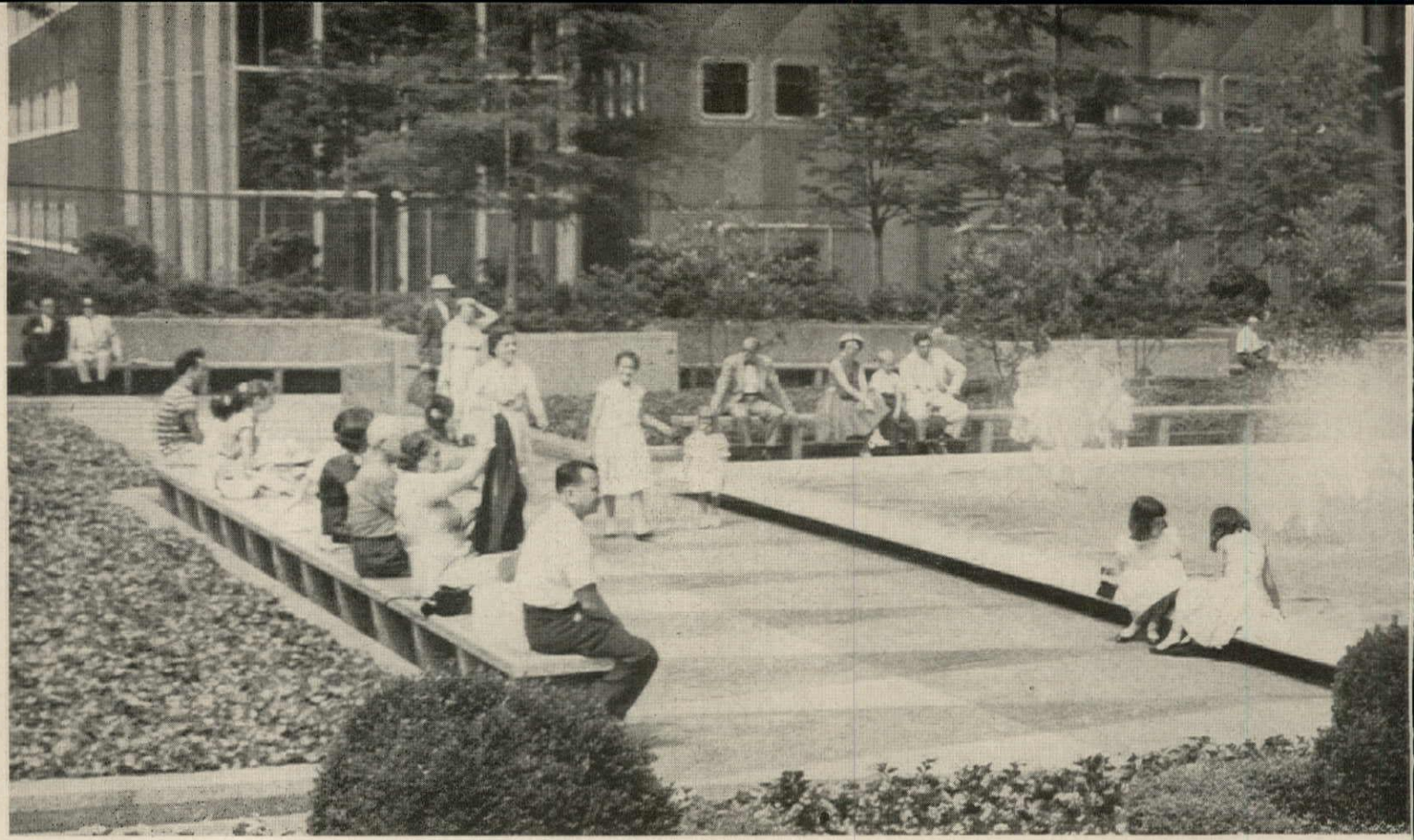




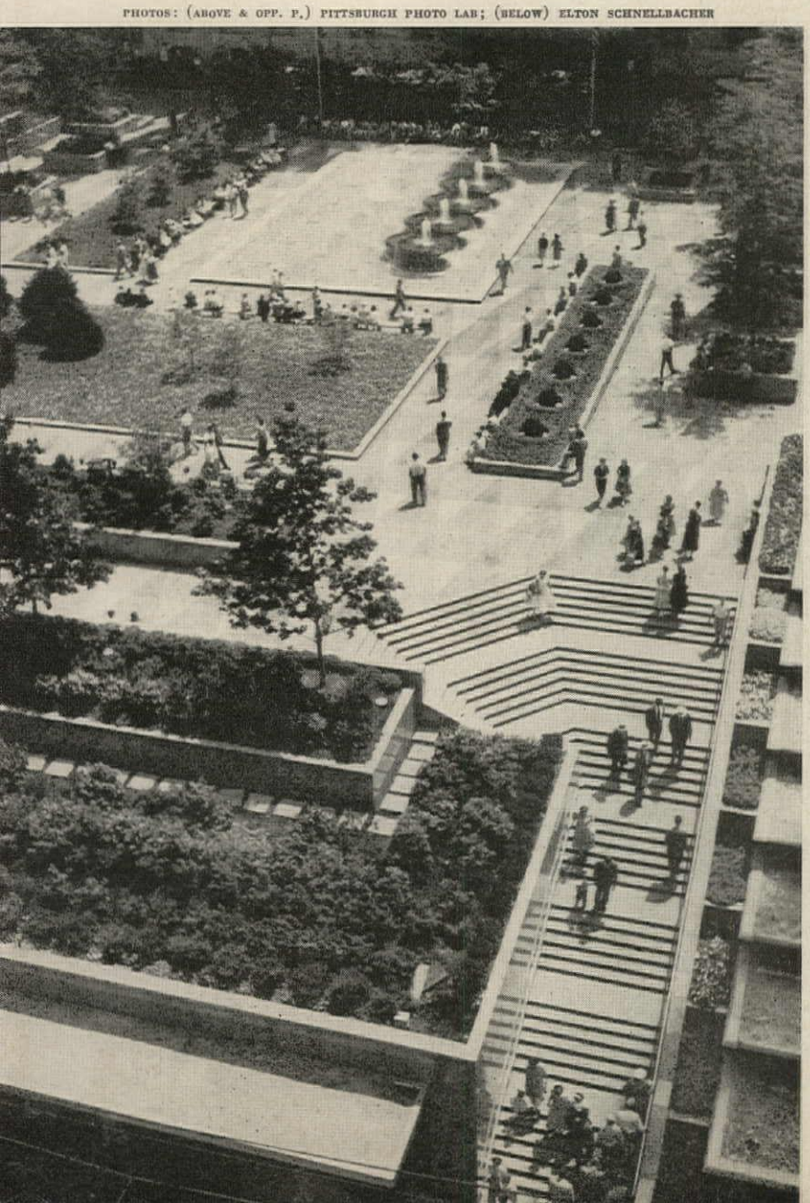


PHOTOS (BELOW & OPP. P.): LOUIS CHECKMAN; (ABOVE): ELI AARON





PHOTOS: (ABOVE & OPP. P.) PITTSBURGH PHOTO LAB; (BELOW) ELTON SCHNELLBACHER



Art of the city square

How does one design a city square that really attracts city people? This was a question that began to seem difficult when a guest writer in FORUM for February reported on Mellon Square in Pittsburgh. He said: "Perhaps a few office workers eat a sandwich there on a sunny day . . . " To him the Square had a "wistful, indeterminate, deserted quality" though it looked nice from above.

If Mellon Square was failing, what other new city square design might succeed?

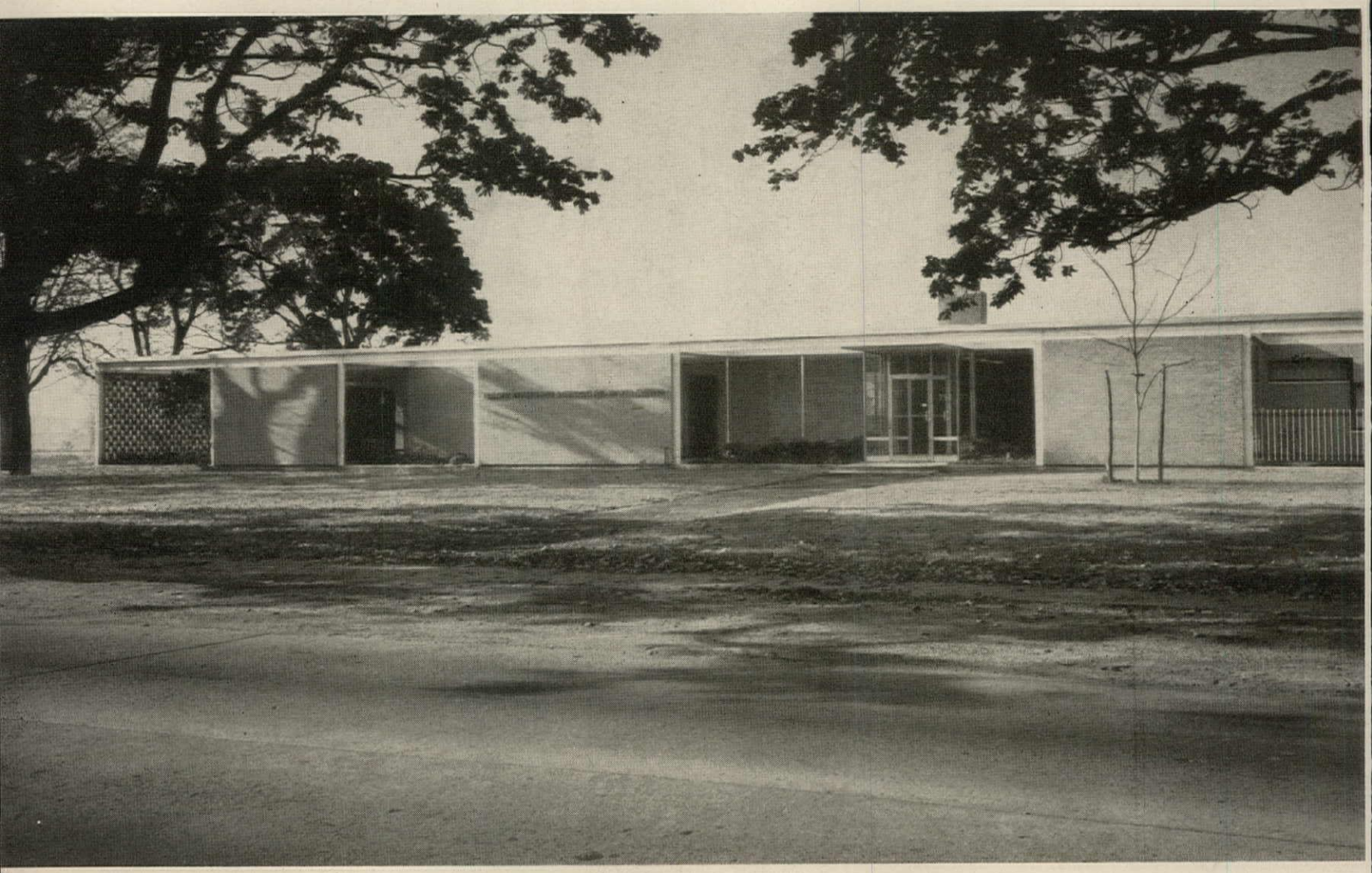
Then came *The Pittsburgh Post Gazette* to the plaza's defense: "It is, in fact, crowded every pretty day . . . a graceful, restful clearing in the city's concrete jungle. . . . We only wish more of these 'wistful' creations graced Pittsburgh."

And further investigation showed that the *Post Gazette* was loyal to fact and not only to the design of Pittsburghers Mitchell & Ritchie. The Square was busy. So planners, architects, and all who love cities can safely add Mellon Square to their collection of working examples. City people really will climb a few steps, walk a few feet, to enjoy spacious areas with planting and fountains.





Health buildings: four new types



1. For group medical practice, a checkerboard of gardens and waiting rooms

Here is a group practice center—the East Nassau Medical Center in Hicksville, L.I.—which is visually so serene and so easy in its circulation that the unsuspecting might consider it represented a simple problem. But what it represents is mastery over complexity.

The difficult functional problems of a center like this are similar to those of a hospital outpatient area, with its many separate but interrelated departments and joint facilities. And in addition, because here the doctor's relationship with patient is that of personal physician, the institutionalism imposed by function must be played down. But at the same time the doctors' relationships with each other—as members of a team—must be encouraged.

This center comes close to the ideal in both function and atmospheric intangibles. The double-corridor system keeps departments compact, provides a centered control point for each and, most important, makes consultation among physicians quick and unhampered. The doctors' entrance, with the switchboard as control and pickup point, leads into the medical corridor or down to lockers and lounge. Mailboxes adjoin lounge, another deliberate encouragement to contact and confab.

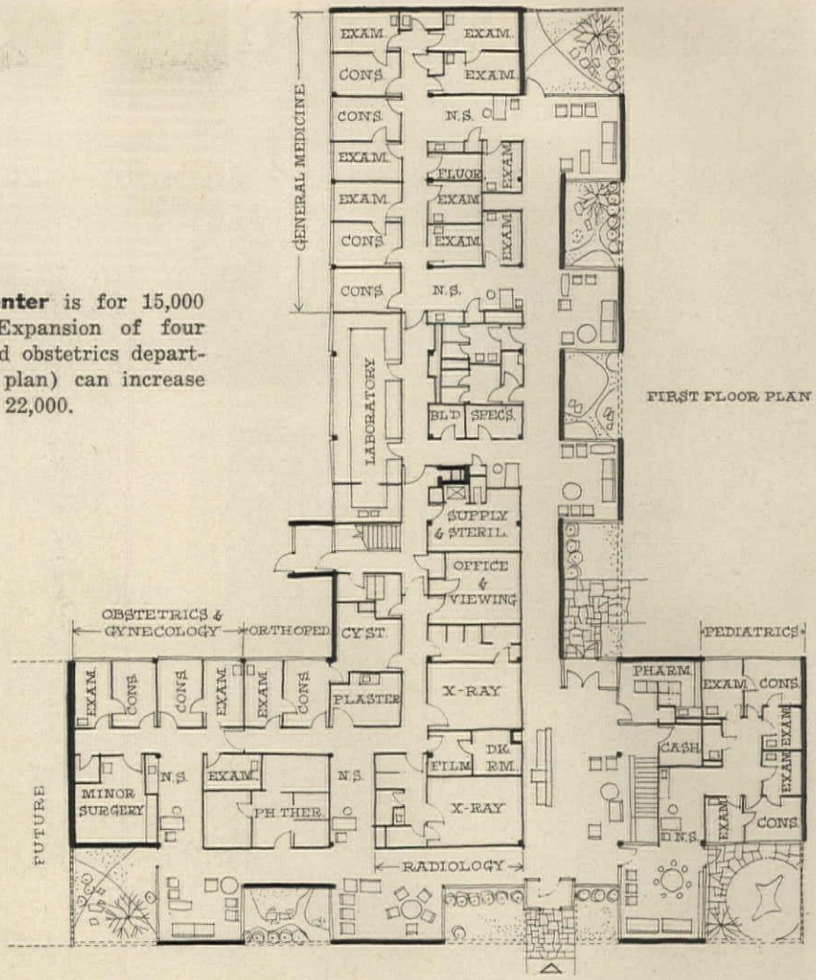
In the public corridor, each department has, opposite its control point, its own garden-flanked waiting room, and charming places they are as the photos on the following pages show.

This is the first group center to be constructed under New York's prepaid Health Insurance Plan before a group itself existed. The experiment in architecture-first appears amply justified; 6,000 new patients in 11 months makes this the fastest-growing HIP group. The only serious criticism is that the pediatrics size for prolific suburbs was underestimated, is already too small.

Construction cost, including fees, was $424,100 or $22 per sq. ft. Mayer, Whittlesey & Glass, architects; W. J. Conklin, project designer; Sasaki & Novak, landscape architects; Paul Weidlinger, structural engineer; Bernard F. Greene, mechanical and electrical engineer; Designs for Business, interiors; Sheppard-Pollak, general contractor.

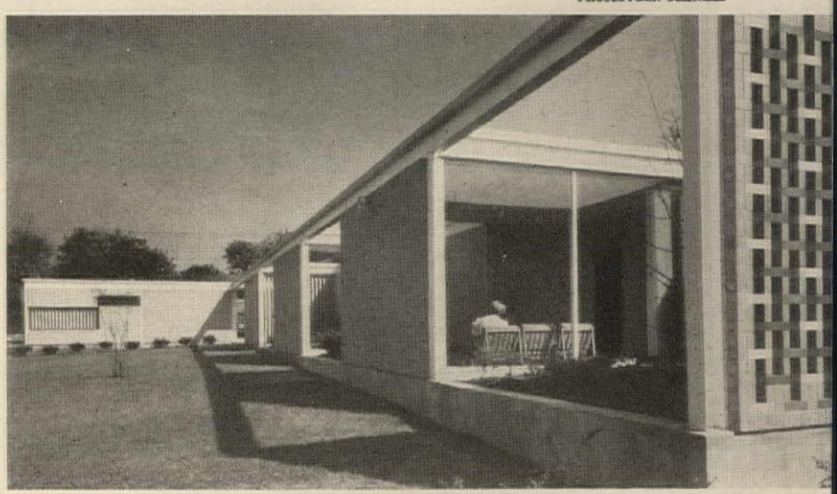


Health center is for 15,000 patients. Expansion of four bays beyond obstetrics department (see plan) can increase it to about 22,000.

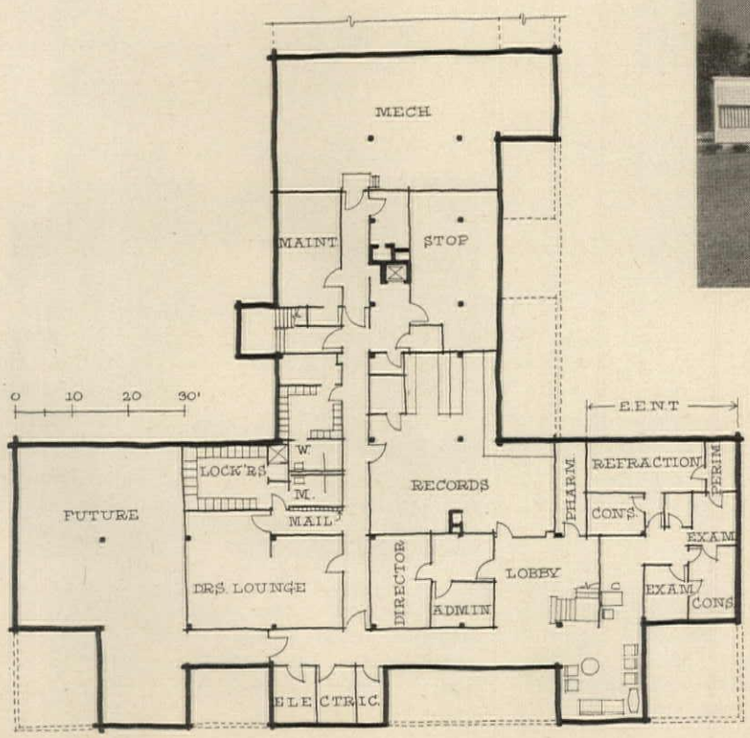


FIRST FLOOR PLAN

PHOTOS: BEN SCHNALL



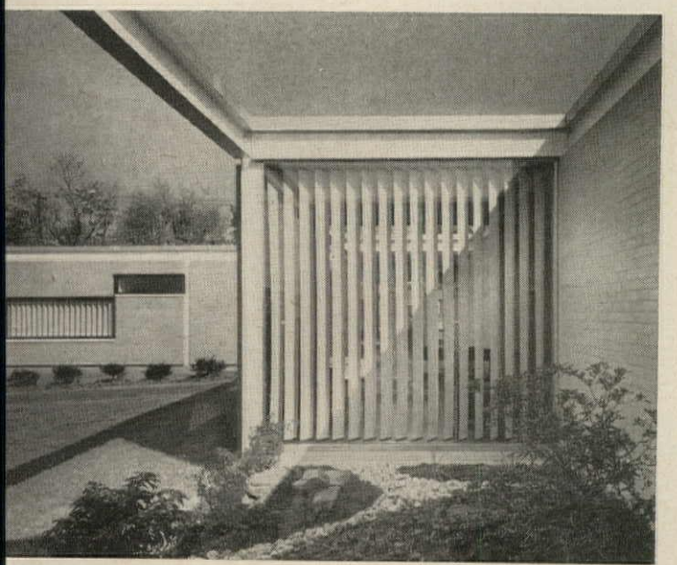
Steel framing and low wall, continuous with the slab, extend across the gardens, making these areas integral and orderly parts of the building.



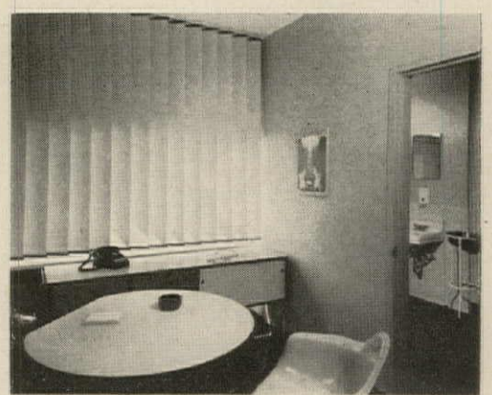
BASEMENT PLAN



Waiting rooms all have delightfully landscaped gardens on two sides. The three end gardens are terminated with perforated screens in which the buff brick is intermingled with colored glazed brick. Vertical louver blinds control the sun in the waiting room.



Fenestration, alternating high in exam rooms, low in consulting rooms, makes handsome rear elevations; sample at far left is in pediatrics.



Consultation rooms are permanent private offices for group's eight full-time physicians. Part-time specialists share additional rooms.

PHOTOS: BEN SCHNALL

Garden-indented design is appreciated by the community; at its dedication town officials termed it "the most beautiful thing we have." A local art group has used the corridor for exhibits, and many meetings are held in basement rooms.



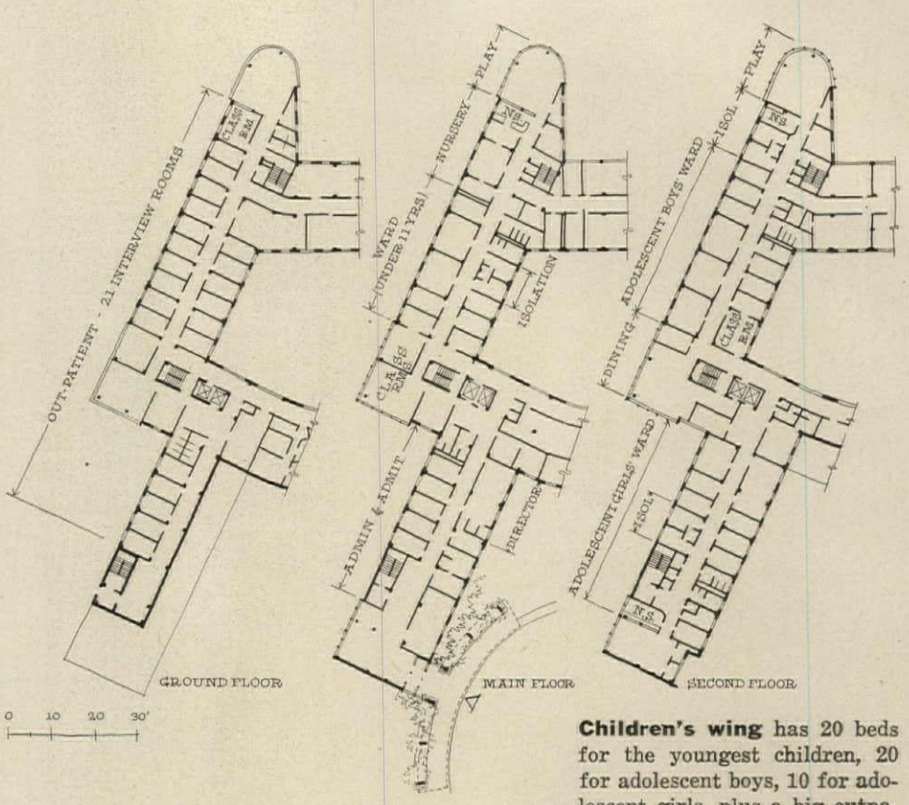
Pediatrics waiting room opens into a fenced garden with play sculpture in a circle of tanbark. Although experience has proved this department too small, its placement just off the lobby, apart from other traffic, is excellent.

2. For a mental hospital, an intensive-care children's wing

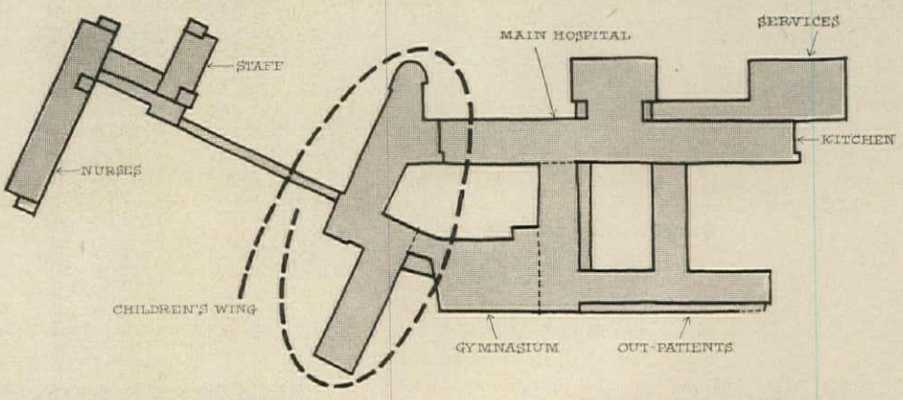
This hospital, Eastern Pennsylvania Psychiatric Institute—a facility of Pennsylvania's Department of Welfare—is a result of one of the most heartening medical trends of our time: the speedily growing importance and effectiveness of intensive-care psychiatric facilities. The Institute will be a considerable force in pushing this trend too, because it serves as a research and teaching hospital for the five medical schools in Philadelphia and for local university students in other relevant occupations.

The self-contained children's wing, which has its own outdoor area for play, illustrates the careful provision for teaching, treatment and observation provided in all patient portions of the hospital. The outpatient department of the wing has 21 interview rooms, an indication of the big role this department plays in progressive psychiatric hospital practice. It also indicates one important reason why such hospitals are placed in population centers, not out in the country. While children's areas in mental hospitals are common, a complete intensive-care unit for children is still a rarity and a forecast.

Construction cost of the hospital and staff housing, including fees, was $11,600,000, or $24.97 per sq. ft. Harbeson, Hough, Livingston & Larson and Harry Sternfeld, associated architects; Sanders & Thomas, structural engineers; Louis T. Klauder & Assoc. and Arthur C. Caldwell, mechanical and electrical engineers; Turner Construction Co., contractor.



Children's wing has 20 beds for the youngest children, 20 for adolescent boys, 10 for adolescent girls, plus a big outpatient area.



Hospital puts 250 beds for adults in its main block, research labs on the whole top floor. Children's wing is at far left in photo below.

CORTLANDT V. D. HUBBARD





ALEXANDRE GEORGES

Covered walks join the dining unit (left) to other ambulatory units of the campus

3. For rehabilitating alcoholics, a therapeutic campus community

This state center for treatment and rehabilitation of alcoholics in Avon Park, Fla. is among the first examples of an important new kind of building, very different from older facilities for what was known as "the cure."

Because alcoholism appears to be notably unresponsive to individual treatment and notably responsive to various kinds of group treatment (such as Alcoholics Anonymous), this center is most carefully designed to foster community life. The generous number of gathering rooms—used both for therapy and casual sociability—are shrewdly placed for maximum convenience and use. Moreover, the arrangement of the separate building units, with their covered walks, forms a rather tightly knit, inward-facing village. But not too tight, because it is also vital for the patients, all of whom come voluntarily, not to feel they have been trapped or confined.

Like the group medical center on p. 124, this establishment serves much more complex functions than its visual simplicity indicates. The ten-bed intensive treatment area with clinical facilities takes patients during the initial "drying out" period of two to seven days. The 40-patient ambulatory area (28 men, 12 women) serves a 30-day program of individual psychotherapy, group therapy, social service assistance, occupational, recreational and work therapy and exposure to "the total push" of the community network. After this, patients leave the center's living accommodations but attend the outpatient clinic in the main reception and clinical unit.

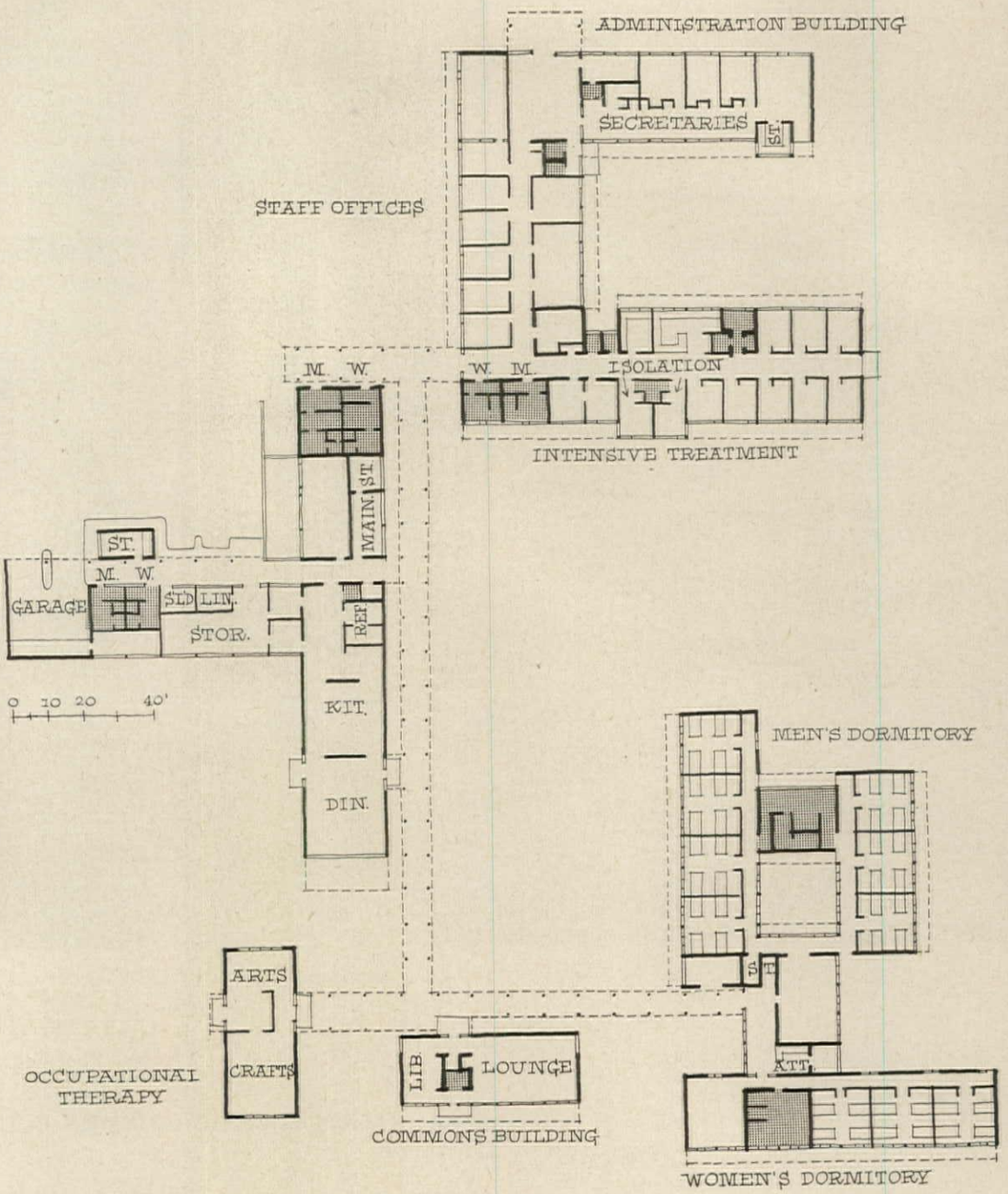
The administrative area is headquarters not only for the center, but for direction of planning, education, research and regional outpatient activities of the state-wide Florida Alcoholic Rehabilitation Program.

Future expansion is planned for almost all present units, including doubling of ambulatory facilities, the maximum considered desirable. Other plans for the 190-acre site include a separate center for about 300 court-committed patients, staff and trainee housing.

Construction cost, including fees, was $340,190 or $13.75 per sq. ft. (steel framing, laminated wood beams, concrete block walls). Sherlock, Smith & Adams and Heim & Heim, associated architects; Charles M. Kelley, architect-in-charge; James A. Evans, mechanical engineering; J. L. Phillips, electrical engineering; William B. Gebhardt, landscape architect; A. C. Samford, general contractor.



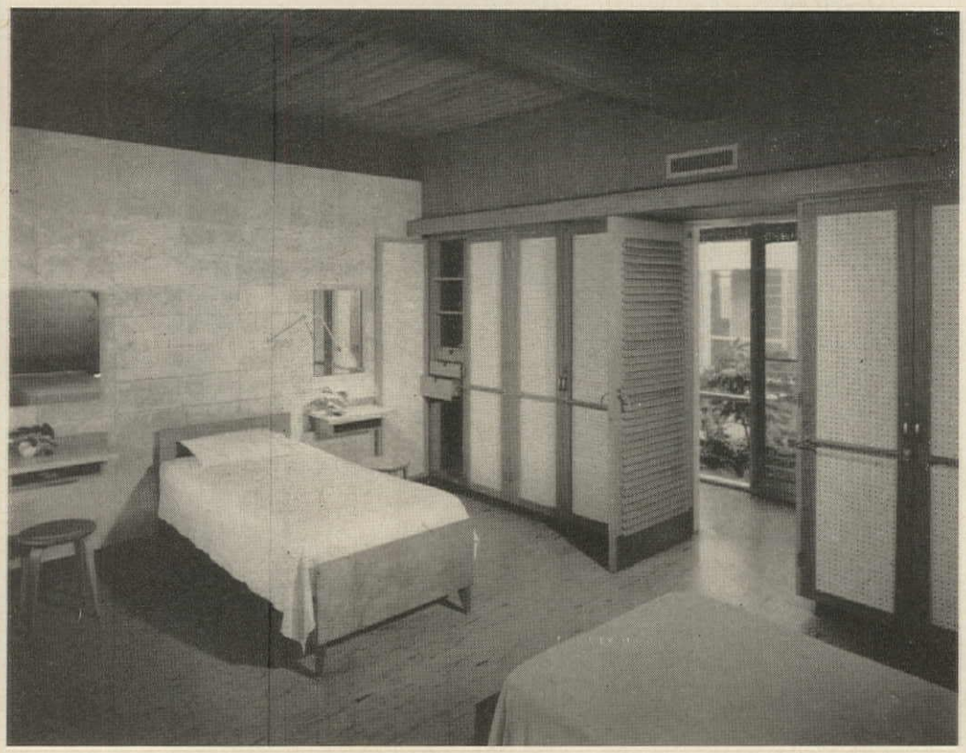
Administrative area includes this head office of Florida's state-wide alcoholic education and rehabilitation program.



Entrance to administration unit (offices at left) is a public area, screened from the inner campus community beyond.

PHOTOS: ALEXANDRE GEORGES





Bedrooms in the 30-day ambulatory unit are all four-bed; the room shown opens onto a glazed courtyard corridor.



Main lounge in the commons unit serves both as a casual living room and as a scene of daily group therapy sessions.



In the lobby the receptionist's desk controls all entering traffic except stretchers. Interior design throughout is aimed to neither alarm skid-row patients nor depress the well-off.



PHOTOS: BERKO

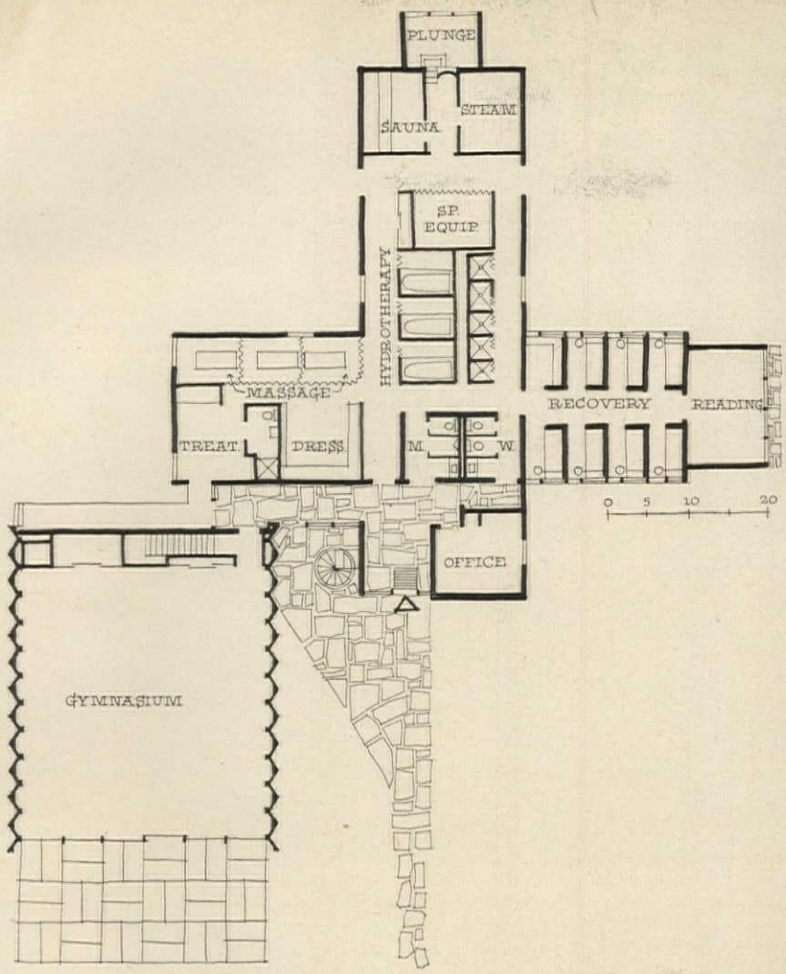
4. For tired executives, a gym of pleated concrete

This modern version in Aspen, Col. of the old-world spa is designed to revitalize the fatigued (but not ill) executive by means of a two- or four-week course of hydrotherapy, graduated exercise, sports, corrected nutrition and relaxation. Meantime, the seminars, concerts, exhibitions and discussions of the Aspen Institute for Humanistic Studies—of which this health center is the newest facility—nudge his mind.

While this is a rather special health building, it has cheerful ideas that appear equally valid for the workaday hospital or school. The unusually pleasant, cleanly designed gymnasium has a prefabricated accordion-panel construction which is skin and framing in one. It is shown in more detail on p. 134 and, schematically, on the cover. In the main building, a hard, smooth, water-resistant surface for most partitions and walls was obtained economically with insulation-filled pumice blocks, honed smooth and covered with a silicon waterseal. And considered as a physiotherapy unit, the plan is efficient and rational: note the lounge and terrace in the recovery area.

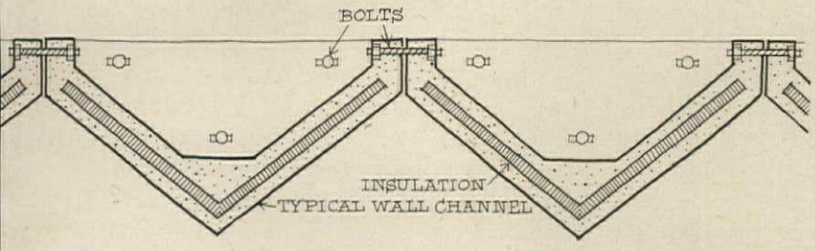
Construction cost was $160,354; $25.79 per sq. ft. Herbert Bayer and Fritz Benedict, designers; Ketchum & Konkel, structural engineers; Robert Harrison, mechanical engineer; Horace Hendricks, general contractor.





Plan sets the entrance between the two main elements: gymnasium (left in photo below) and the center proper with its facilities for consultation, treatment and recovery. Beside the entrance is a spiral stair to the sun roof. The semicircular windscreen on the roof is of etched glass because clear glazing proved fatal to birds.





Gymnasium's end walls are 4'-wide prefabricated sandwich panels: 1" of glass fiber between 1½" layers of concrete. Similar roof panels are solid concrete with glass fiber applied after they were bolted to the walls; gypsum, applied after the fiber, slopes the roof troughs for drainage. Wall corrugations provide handy recesses for gym equipment.

PHOTOS: BERKO



Will the new national highway program, the fattest government handout ever, be used to attack the desperate metropolitan crisis or to compound it?

The hundred billion dollar question

by EDWARD T. CHASE*

The biggest environmental change in our lives in the next decade and a half may be effected not by fluoridated water, tranquilizing drugs, flying saucers or even nuclear energy, but instead by Public Law 627, enacted last year by the 84th Congress.

This law was urged and signed into being by a President who by nature and party eschews planning in its long-hair sense. Nevertheless, this legislation prescribes environmental changes for America on a scale so mammoth as to dwarf all previous public work projects and indeed all man-made physical enterprises except war. One goes back to the Roman Empire's achievement of a 50,000-mi. road grid to find a precedent, and that was 500 years in the building.

The law is the heart of a program whereby $100 billion of federal, state and local government funds will be directed toward the construction of 41,000 mi. of new highway and modernization of 700,000 mi. of old over approximately 13 to 15 years.

The key section of the program is 41,000 mi. of major expressways—the National System of Interstate and Defense Highways—to link 90% of all our cities of 50,000 people and over. On a 90 to 10% ratio, the federal government will provide $24.8 billion, the states $2.8 billion to finance this system.

For so-called primary and secondary roads, the federal government has appropriated $2.5 billion covering the next three years, and the states will provide the same amount, adding up to $5 billion. Furthermore, it is expected that Congress will continue to appropriate some $850 million annually for these roads. This is $11 billion for the 13-year period of the highway program, to be matched by $11 billion from the states; a $22 billion total.

During this same period, the states and local governments are expected to spend about $52 billion on other highway work, exclusive of the federal aid system. The grand total of all expenditures is thus $106.6 billion. To get a sense of the reality of this, consider that the WPA and the PWA combined spent only $15 billion.

But what makes this program cataclysmic is not the elephantine monetary sum. It is that it occurs in conjunction with a convulsive change, with the vast shift of our burgeoning population into tremendous metropolitan urban complexes, as reflected in the fact that 97% of our population growth in the last five years has gone into cities.

By all odds, the greatest significance of the new highway program is not the million new jobs it will create, the probable death blow it will deal to toll roads, the safer conditions that are expected to save 3,500 lives per year or the $12-a-year estimated saving to the average motorist. The greatest significance has gone unnoticed by the law-

* A consultant to Connecticut General Life Insurance Co. in setting up a symposium at Hartford in September on "The New Highways—Challenge to the Metropolitan Region" as the feature of the opening ceremonies for its new headquarters building outside Hartford, Conn.

makers and remains virtually unrecognized by the administrators of this undertaking. It threatens to remain unrecognized by the numberless administrators-to-be as the program gathers momentum. The greatest significance is the challenge the program offers to ameliorate the nation's No. 1 domestic problem: the growing metropolitan crisis.

Lewis Mumford, perhaps our most subtle philosopher on the city, has said that, intellectually, we today—the most urbanized people on earth—are almost as unprepared to understand our situation as the inhabitants of Ur, Memphis or Babylon would have been. The brutal essence of our urban problem is that the vast mass of our people now live in huge metropolitan regions with decaying and obsolete central-city cores surrounded and interlaced with mile after mile of urbanized land which is generally congested, inefficient and unlovely, and is now consuming precious new land at the rate of a million acres a year.

These great metropolitan areas are the source of our cultural achievements and industrial wealth, where the majority of our people seek self-fulfillment. But having developed along obsolete patterns, these metropolitan areas have become increasingly difficult to live and work in and frustrating to move in. They are nullifying their own function, which is succinctly described by Mumford as "the enrichment of life by the continued interactions and transactions of varied groups of personalities." They are beginning to run one into the other over hundreds of miles so that their environs are neither city nor country but rather land suffering from urban blight. Some 18 massive urban regions can be clearly differentiated as of 1957.

The cities proper are obsolete in nearly every way: in archaic governmental boundaries creating conflicting political jurisdictions (the 174 standard metropolitan areas have 16,000 units of local government); in essential public services falling below minimum standards; in financing, with most large cities barely solvent; in transportation, where use of mass transit has dropped to levels of half a century ago and traffic congestion extending into suburbia, by prolonging travel time to and from work, has tended to cancel the amenities of shorter working hours and better job conditions; in housing, where five million urban families now live in slums despite the relocation of a half million slum families in public housing since 1933.

Concurrently, the explosive migration from the metropolitan core to the fringes has produced a dismaying suburban blight. Once-attractive residential areas are succumbing to excessive concentration and to unsightly commercial development. And as the rush to the metropolitan fringes continues, it takes with it purchasing power, so that this movement means the decay of downtown trade areas and of the central city. In turn this means that the abandoned central city residential areas become the housing of the poorest groups. With little new housing, the overcrowding—so often by colored populations—is some six times greater than before, and new slums proliferate.

Paradoxically, in the suburbs, poor or no planning, with such results as inadequate tax bases (frequently all industry is zoned out) lead to below-par schools and other services for the modestly well off who have fled the cities precisely to achieve higher living standards.

It is no wonder that alarm over the metropolitan crisis has begun to become evident everywhere. In reaction to this there are encouraging instances where one or another of these problems is being met. St. Louis, Detroit, Pittsburgh, Atlanta, Cleveland, Ft. Worth and Kansas City are some of our larger cities that have made or soon will be making notable improvements.

But by and large, it is an indisputable fact in the striking phrase of Robson, the English sociologist, that the great city of today lives by a miracle. And with our present planless growth, problems are bound to worsen as by 1975 another 50 million will have crowded into our archaically patterned metropolitan areas. With the world's highest income, most Americans will be confronted with what can only be termed less satisfying standards of living by any meaningful qualitative yardstick.

This deterioration is not death, however, but instead the agony of rapid growth. The explosive development of metropolitan America is a phase of the continuing industrial revolution. The cardinal causes are the spectacular advances of both income and education among the lower economic half of our population and concomitantly *the mass production of automobiles and hard surface roads*. These forces accelerated from the middle of the thirties on (inhibited temporarily during the War and Korean action), and have picked up steam since.

The chance of a century

Against the background of metropolitan crisis, we are given what amounts to the largest governmental aid program ever. The great opportunity is that half of the funds for the National System of Interstate and Defense Highways (the most important part of the road program) will be spent directly within metropolitan areas—an estimated 6,000 mi. of urban arterial highways. With other federal aid, about $16 billion will be available in this crucial area.

Unforeseen by Congress and the Administration, what we have is a breathtaking chance to relieve not only the crisis of urban congestion, but also an instrument to solve many of the other accumulating, urgent problems of our greatest cities.

Yet the likelihood of such a beneficent result is probably slim.

Why? In a nutshell because the

means of movement—roads, vehicles—do not have within themselves the power to solve their own dilemma of congestion. As Wilfred Owen, the Brookings Institution's highly regarded transport expert, has demonstrated, congestion depends on the supply of traffic, on the volumes of traffic that the urban environment creates. Ponder this principle, if you will, while observing the skyscraper building boom in Manhattan. (Seventy-six major office buildings with 29 million sq. ft. of rentable office space will have been constructed between 34th St. and 61st St. since World War II when buildings now underway are completed.)

As Owen and Mumford have shown, a balance must be made between 1) the volume of traffic generated by the uses to which urban land is put, and 2) the transport facilities to move the traffic. What has happened is that unplanned and ill-planned development of urban land has multiplied travel needs. The virtues of better engineered facilities, of better cars, are negated by the creation of an impossible urban environment that neglects to anticipate the congestion it will breed.

Yet, so far the highway program has not been interpreted in these terms, implicit though they are in the writings of Mumford, Albert Mayer, Owen, Miles Colean, Victor Gruen, etc. *The program exists as an unrelated enterprise, isolated from metropolitan planning and indeed even from the transportation system it is supposed to rejuvenate.*

The text of the law itself is pitifully bleak in this regard. Vital Section 116 simply states that in the case of any highway project traversing or by-passing a city or town, public hearings must be held to consider "the economic effects of such a location" and that a copy of the transcript of such hearings be sent to the Commissioner of Public Roads. There is no compulsion whatsoever for officials to act upon the recommendation or the arguments of the affected localities.

So enormous is the program that local government officials can hardly begin to comprehend it. Nevertheless, it is essential that mayors, planning commission members, zoning boards, redevelopment and housing authorities appreciate this program, and soon, before it is too late. That new urban professional, the coordinator, the man who integrates the work of the myriad boards, authorities, commissions and departments that now run municipal affairs, can be a crucial figure.

Meantime, the program is established and under way. It can aggravate the very problems besetting our metropolises and can compound rather than ease congestion. Or it can be the catalyst that will bring the problems of the metropolitan crisis into focus, the crucial instrument for new master planning and a new attack that will raise the liveability of our metropolitan areas.

What is "economy"?

A thousand things must be done in each of a thousand communities. Fundamental is the need for integrating the thinking and planning of the urban redevelopment officials and planners with the transport and highway engineers and planners. The gulf between these groups is notorious. Yet the enterprises of neither group can be successfully planned separately from the other.

Already the federal government is embarked on an urban renewal program of $1 billion. Furthermore, urban renewal law now provides federal funds (interest free advances) for the cost of master community planning. Right here is a challenge to coordination with the highway program. The highway program itself involves condemning about 2 million acres of land, much of it, we must make sure, blighted land. The construction program is estimated to entail the destruction or removal of 90,000 homes a year.

In effect then, the program is tantamount to a huge urban redevelopment project. But the actual job of planning the highways, building them, and maintaining them is entrusted by law to the state highway departments themselves. They are not famous as reservoirs of first-rate planning talent. In fact, the lack of plain workaday civil engineers for these departments to carry on essential jobs is already a national problem because pay incentives are too low.

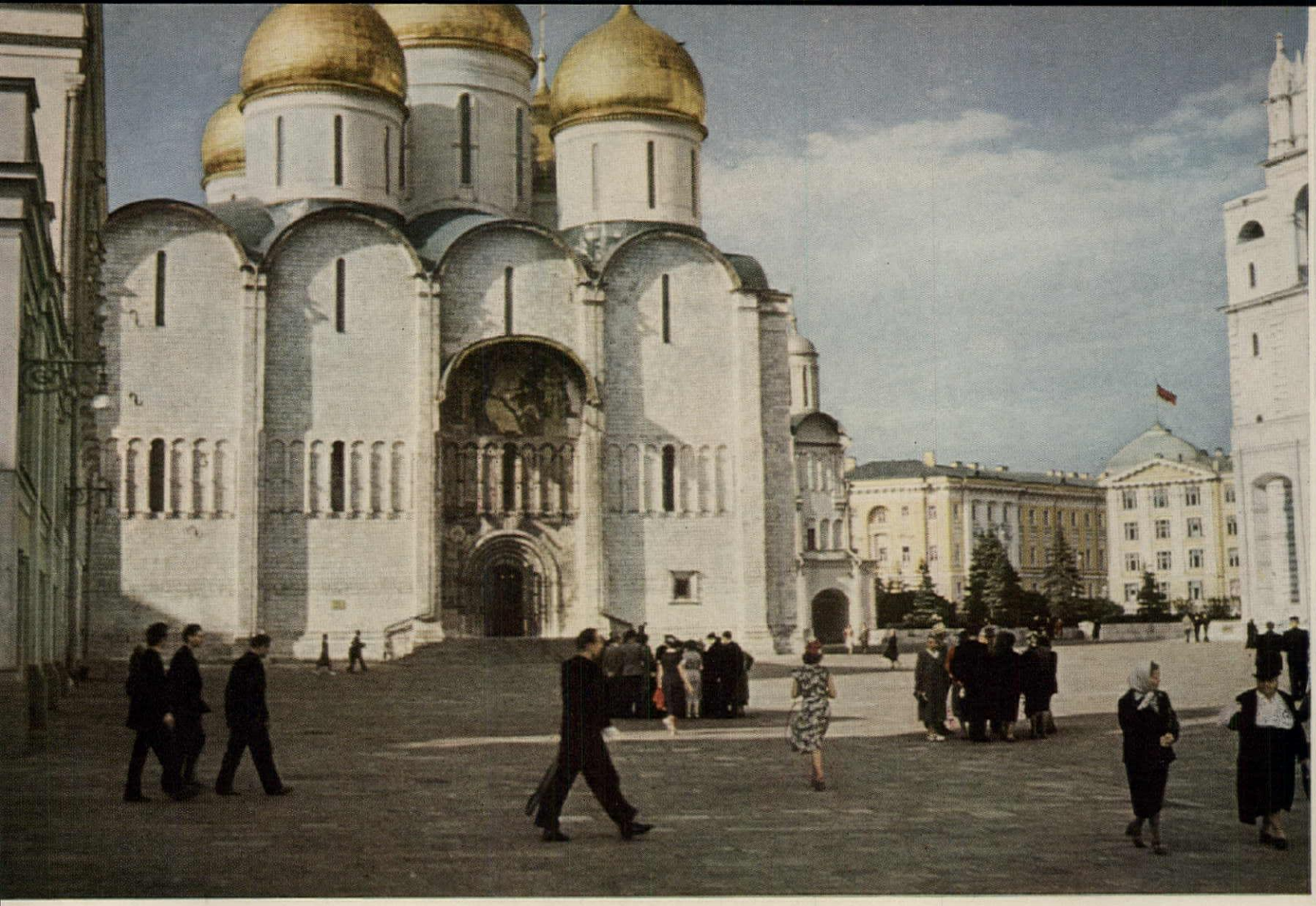
Here is a typical consideration: the highway program as now contemplated entails, for the most part, the construction of entirely new rights of way, mainly to avoid the steep costs of modernizing existing roads.

Yet this can be shortsighted economy, for it stems from the basic fault of viewing the highway program in isolation from the whole metropolitan crisis. If we aim to achieve not only a better transport and highway system, but also better cities, then the alleged economy of alternate rights of way can prove very false.

If, on the other hand, the planning involves the use of existing rights of way, it can often be designed to remove the blight that now both defiles our roadsides and spoils vast adjacent areas. Where major slum areas can be eradicated through use of new rights of way, the opportunity must not be missed. The point here is that the controlling idea must always be the creation of an environment where not only transportation can succeed, but also residential and business life can be carried on successfully. This is the most "economical" yardstick, not initial road project costs.

If such fundamentalist thinking seems impractically Utopian and costly to businessmen and officials faced with the mechanics of the task, consider that in the next decade it is estimated that whether we make plans or not, whether we like

continued on p. 202



The Kremlin's golden tombs

Gallery

Inside the high, red walls of the Kremlin is a legendary national treasure which has fascinated Westerners ever since Europe first became aware of Russian might. Just enough tales of the medieval cathedrals and the gilded cupolas have come out to tease a ravenous curiosity.

Last fall, shortly before the Hungarian revolt, Architect Noverre Musson went from Columbus, Ohio to Moscow with the mission of photographing as much of the "treasure" as he could. Although Musson is a competent linguist, he played the part of the obtuse American tourist, failed to understand any official objections to his free-clicking cameras.

FORUM now presents the result: a color-charged collection of architectural wonders. Here, grouped closely around the Kremlin's inner Cathedral Square, is the climax of Russian Byzantine art; churches of carefully preserved splendor but outworn conviction.

For, despite their brilliance, there is a tomblike atmosphere in the "cultural museums" of Moscow and other Russian cities. Blasting forth from loudspeakers and repeated by guides is the cold fact that the religion which gave the treasure life and meaning has disappeared. As Musson says, "The churches remain—monuments to a murder."

photographs by NOVERRE MUSSON

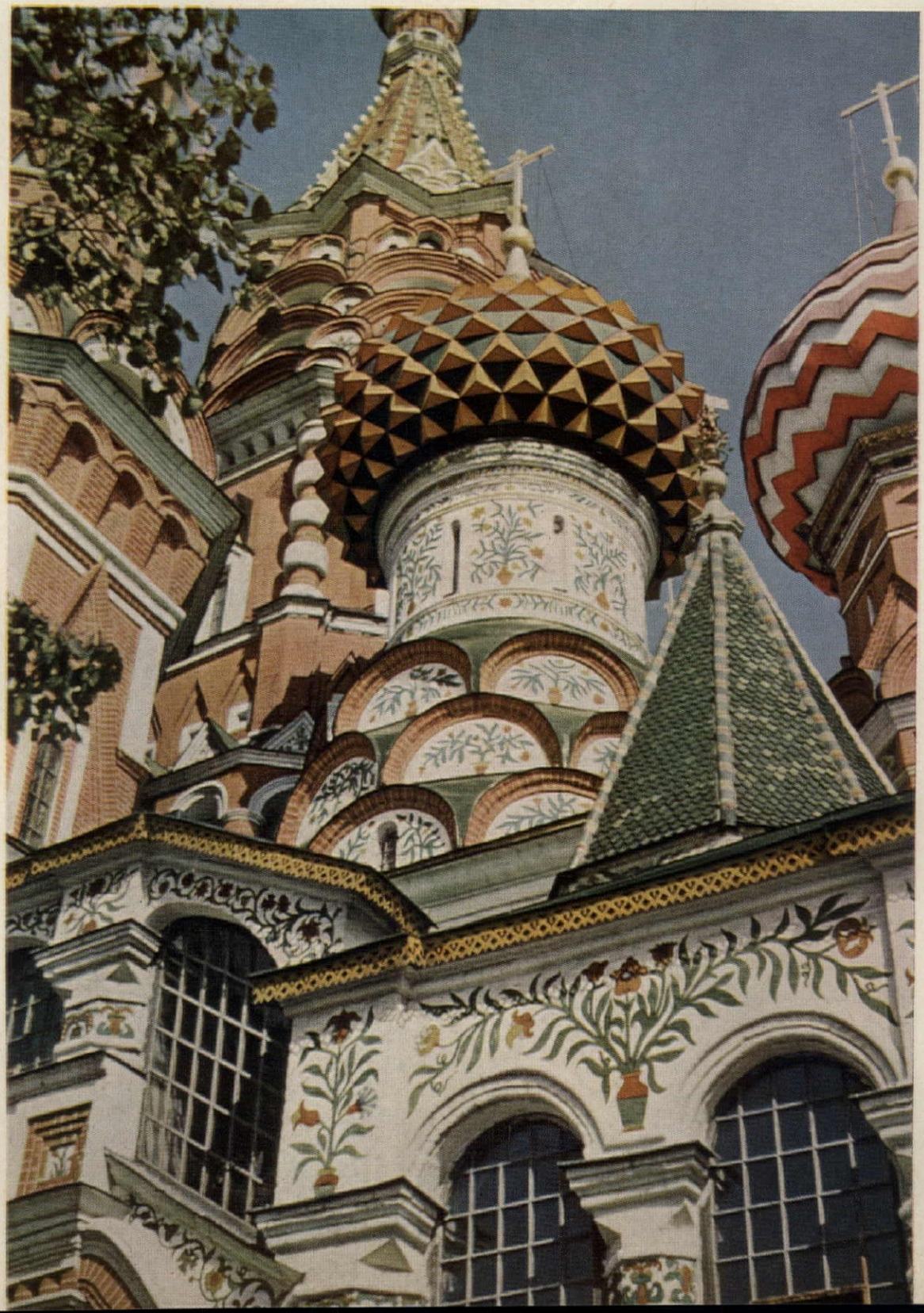
By hybriding Eastern magnificence with classic restraint, an Italian architect designed a Byzantine masterpiece for his patron, Ivan III. Within the fifteenth-century Cathedral of the Assumption of the Virgin (below and left) an awesome assemblage of saints climbs the columns, vaults and embrasures to the very height of the five golden cupolas.



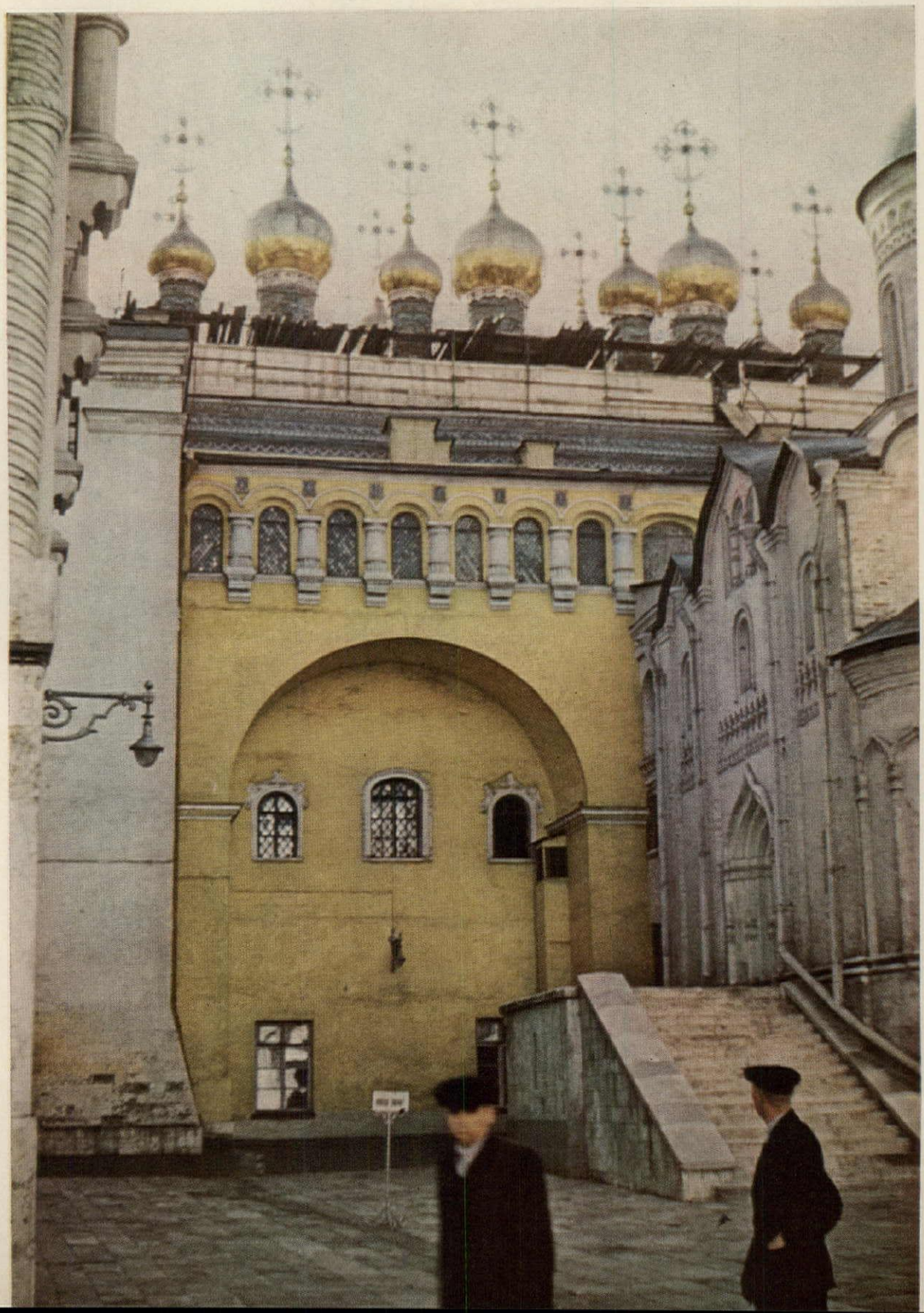
Across the square from the Cathedral of the Assumption stands the similar but more Russianized Cathedral of the Annunciation (1482). Above its elaborate entrance portal, partially hidden by a Byzantine tie-rod and camouflaged by sixteenth-century frecoes, is a twentieth-century loudspeaker, blaring forth the Communist line of antireligion.



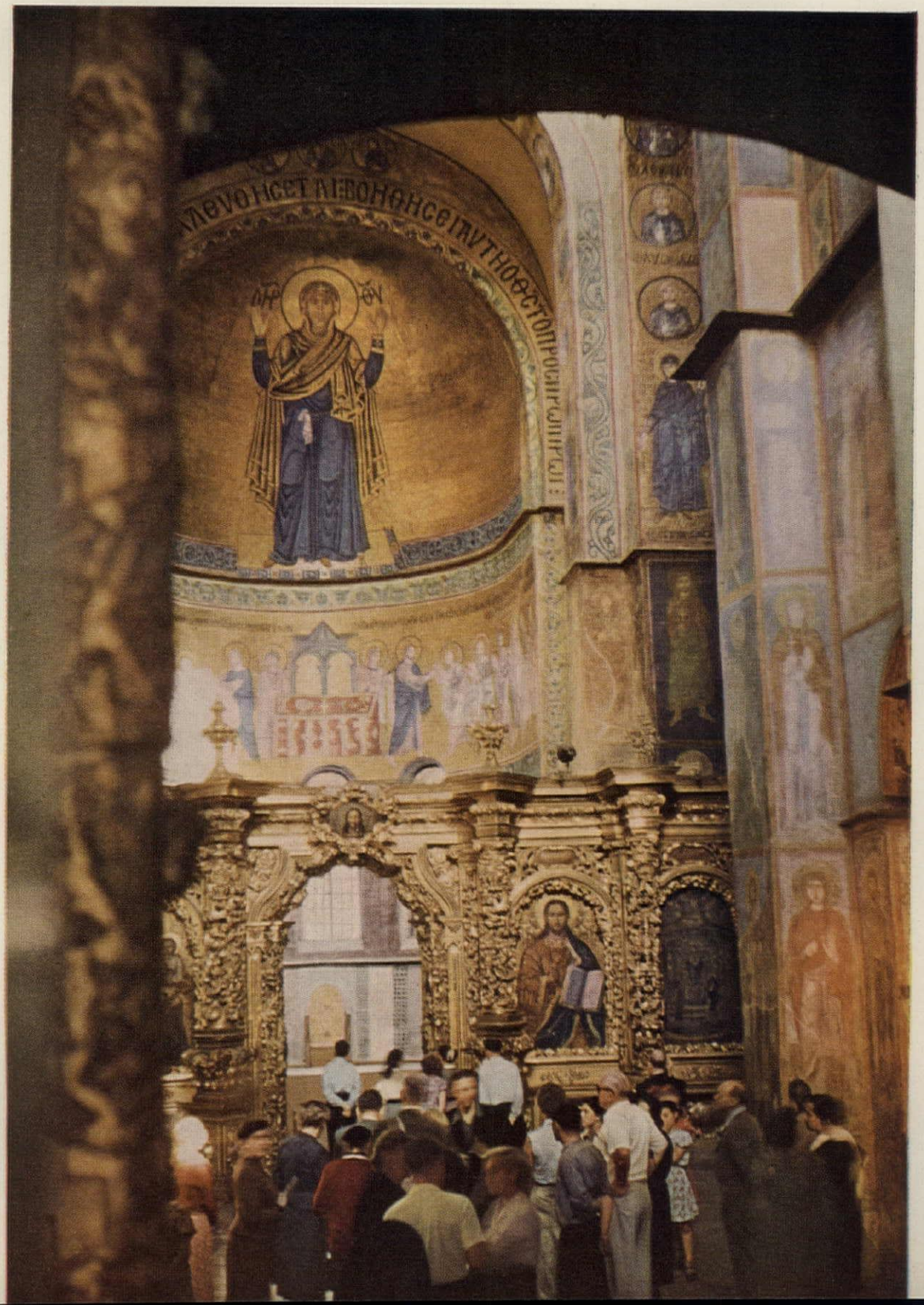
Most inventive of churches, St. Basil's in Red Square can also claim to have had more influence on US architecture (Victorian branch) than any other Russian building. Its colorful chaos first burst into the world in 1554, was until recently believed to have been, like the Cathedral of the Assumption, the creation of a visiting Italian architect. Guidebooks now proclaim, however, that it is the "work of Russian architects, Barma and Postnik." Postnik or not, it remains a monument to religious enthusiasm and architectural imagination.

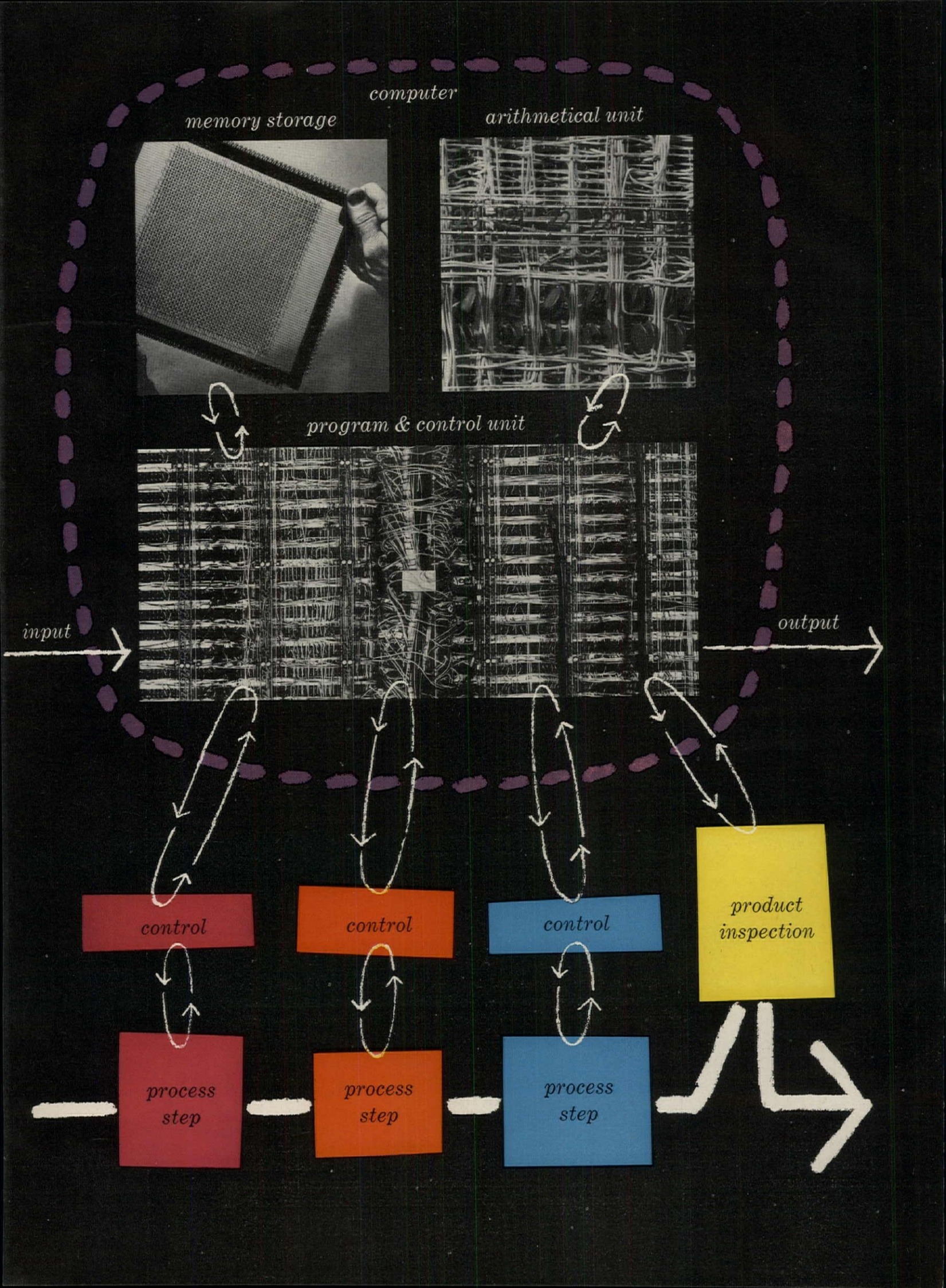


Tucked in between a Kremlin palace
and yet another cathedral is
the 11-domed Chapel of the Saviour
behind the Golden Grille.
Built in 1687 as a decorative addition
to the palace, the chapel has
been the victim of innumerable
restorations ever since.
From the lumber stacked above the
tile cornice, it appears that
one more is currently underway.



Herded through the "museum" by their guide, a group of Russian tourists is given an official explanation of the mosaic iconography of ancient (eleventh century) St. Sopia's Cathedral in Kiev. The unofficial explanation is that the larger-than-life-sized figures of Christ and the Disciples were functional, a working part of the religious life of the worshippers.




computer
memory storage
arithmetical unit
program & control unit
input
output
control
control
control
product inspection
process step
process step
process step

What the building industry needs to know about automation—a new force in the design of the next generation of industrial plants

Automation and architecture

The electronic brain or digital computer (dotted area, left) symbolizes and foreshadows the automatic factory because it contains the essential principle of feedback control. This schematic shows how a computer works and how it might be linked to control an entire industrial process.

At the input, complete data, program sequence and operating instructions are fed in by magnetic tape or other devices. The control unit then stores data in the memory unit (here a new magnetic-core device storing numbers as charges on tiny junctions of the grid) and directs the arithmetical unit (which counts by pulses in electronic tubes) in a series of computations, referring back to the memory for numbers, instructions or comparisons at each step. Results are delivered at the output by electric typewriter, printer or other device.

Because of its self-regulating ability to direct long sequences of data processing, the computer may some day be tied in (as shown at bottom, left) to electric controls, servomechanisms and sensory devices, such as electric eyes or gages, to master-control, phase, check and oversee product inspection at all stages of a complete industrial process.

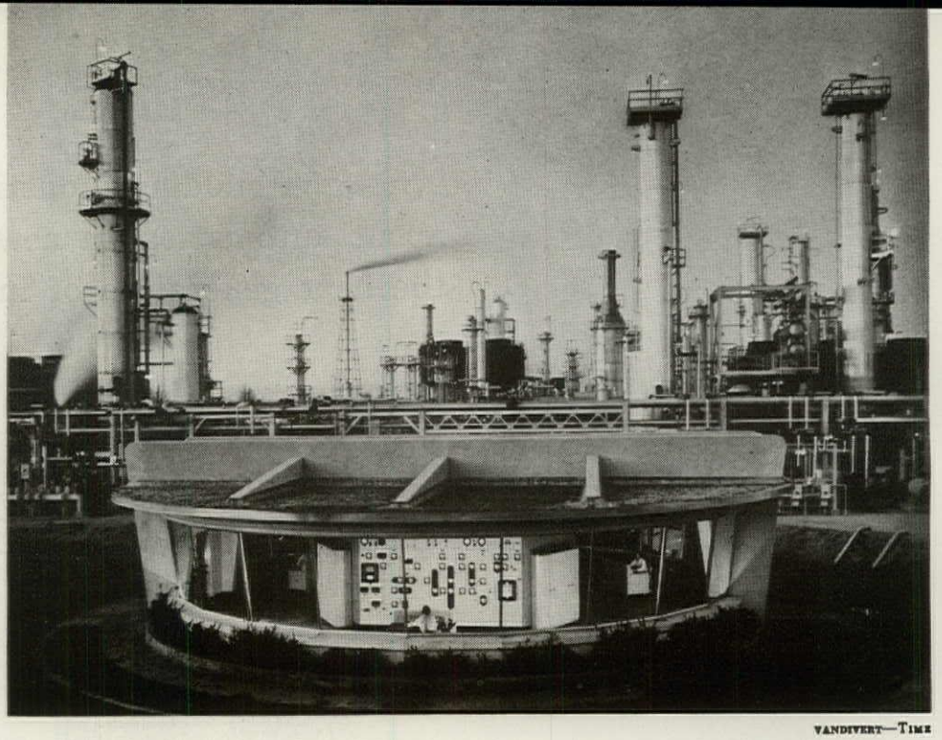
A good deal of confusion surrounds the term automation. Conceived in the phrase mills of Detroit (as a contraction of automatization) and wafted up on the publicists' hot airs, the word has been applied to almost everything it isn't, from vending machines to mere extensions of mechanization such as have been going on since the dawn of the industrial revolution. Because it has something to do with the mysteries of electronics, automation also has acquired an aura of technical mysticism, a magic word context, much traded on in the double-talk of the "experts."

Yet something very real and very plain, if not yet realized in any physical plant, lies behind the word automation, with which architecture needs to acquaint itself. It is a concept which in the not distant future will change the shape of things, of products and buildings and ways of life, in modes more subtly and in the end more radically than anything that has gone before in the industrial revolution. It is a basic new area of social and industrial development that architecture must be prepared for, not in precise knowledge—only the technical specialists can have that—but in knowledge about basic principles and lines of development.

Basically, automation means the automatic factory, the industrial or business process carried out from beginning to end with an absolute minimum of human intervention. Basically, it is a completely self-regulating system in which raw data and materials are poured in at one end, processed automatically through various stages—at each of which sensory or digital information is fed back to and received from the supervisory system to control each step—and the finished and inspected product is dropped out at the other. The marks distinguishing this idea from such simple mechanizations as an ordinary production line or a roomful of separate business machines are "self-regulatory system" and "feedback," both essentially electronic terms in their modern connotations.

Feedback is the very heart of the automation idea, as it is of all radio and electronic communications. The simplest form of feedback, known long before radio, is the governor on a steam engine or a thermostat which controls a room's temperature by feeding back information from a thermometer to open or close a valve on the furnace. But it was in the radio vacuum tube that feedback gained its precise systemic meaning, for all radio transmission and amplification is based on feeding back a part of the tube's output signal to the input in a lightning-like loop to raise and control its vibrating or amplifying power. And automation and the automatic factory did not begin to be thought of until the invention in 1945, by J. Presper Eckert Jr. and John W. Mauchly, engineer and mathematician respectively, of the large-scale electronic digital computer or giant "electronic brain," which embodies feedback in a logical system and is the epitome or nexus of the automatic factory (see opposite).

In the strictest sense, no fully automatic factory, controlling a complete sequence of operations in a self-regulating feedback loop, relegating the human operator to a purely standby role, has yet been built. The complexities are large, and the weight of capital investment in present plants and processes is making the move to automation an evolutionary rather than a revolutionary one. Lord Halsbury, a British authority on technology, sums up a recent careful survey of the industrial world's movement to automation:



VANDIVERT—TIME

Control engineering is exemplified by this oil refinery unit of the McMurray Refining Co. at Tyler, Tex., run by three men scanning the instrument panels, foreground, measuring heat, pressure, flow.

"We must wait for a new generation of factories to see the full consequences of automation."

Pieces of automation

What is being seen in constantly increasing numbers today are various approaches to or partial arrangements of automation, mainly adapted to present plants and products, which give a clearer and clearer view of the future. These represent the bits and pieces that will come together to form the fully automatic factory or business operation. They fall into four major types, with a fifth—materials handling—acting as a universal link within and between the types, as follows:

Control engineering

This category is represented almost exclusively today by chemical, oil and atomic fuel plants, which are the closest approach to automation so far. The nature of the materials—gases, liquids or toxic solids—has brought the greatest degree of remote process control. A typical oil or chemical plant has such variables as flow, temperature and pressure controlled by operators from a central instrument control panel; and at some stages such devices as infrared or mass spectrometers are beginning to analyze and monitor the process stream, automatically adjusting earlier stages to produce a desired product and providing a measure of feedback control. The latest, most advanced plant of this type is Tidewater Oil Co.'s giant new refinery at Delaware City, Del., controlled from 14 control panels by a mass of electronic instruments. But even here many process stages remain unconnected and human operators must act on the information from instruments, thus making such plants not fully automatic as yet.

Communication engineering

This category covers data processing or automatic paper work, the primary realm of the big electronic computers so far, and a field probably moving the fastest of all toward full automation. Because computers deal directly with raw numbers, they are comparatively easily turned to such paper systems as payrolls, accounting, inventory and production analysis. Computers have been rising rapidly in speed, memory or storage capacity and ingenious high-speed read-in and read-out devices. Internally they are now so fast that they are close to their ultimate theoretical limit, the speed of light, or one computation in one third of one billionth of a second. Over 100 large computers and many smaller ones, more limited or specialized, are now at work in business or industry. Perhaps the most elaborate installation is Sylvania Electric Products, Inc.'s new Data Processing Center at Camillus, N.Y., which links up 118 plants, offices and warehouses over 18,000 mi. of telegraph circuits for the swift, centralized gathering and computation of figures on costs, sales, inventory, manufacture scheduling, markets and production planning. But the problems are so complex and untried here, that, as in most business installations, the computer center is proceeding only by stages, no completely automatized system being yet in operation.

Transfer processing

This area covers the linking together of several manufacturing steps, heretofore done separately, into a semi-automatic production line. It has appeared mainly in the manufacture of automobile subassemblies, refrigerators and other mass-production parts. It may involve the linking together of new highly automatic machine tools, some running on instructions from punched or magnetic tape. The latest, most spectacular of transfer processes is Chrysler's half-mile-long Plymouth engine line which puts raw cylinder blocks through 70 machines and 157 machine operations, ending with automatic testing of the finished engine, to produce 150 V-eight engines per hour. But this process still requires operators at many stations (total payroll: 2,949) to push buttons, control operations, change tools (though a new machine is in development which watches its own tool wear, changes its own tools), and transfer processing is still far from full automation.

Automatic assembly

This type of automation deals with the putting together of subassembly parts into a completed whole. It is still at a partial stage of automation. For instance, some automatic assembly goes into the putting together of the Plymouth engine (above), but the total automobile is still assembled by hand. The closest automatic assembly has come to a complete product is in electric and electronic appliances, where a combination of printed circuits, automatic insert machines and dip soldering makes possible the automatic assembly of a complete radio or TV chassis. A typical development of this kind is General Mills' Autofab assembly line, developed for IBM, which through a series of feed-in chutes and controls assembles component chassis for com-



LEO CHAPLIN—FORTUNE

Communications engineering is shown (left), in the new Data Processing Center of Sylvania Electric at Camillus, N.Y. Here such data as costs, sales, come in on punched tape by telegraph from 118 offices.

Transfer processing is exemplified by the control station (below), on Chrysler's new, half-mile-long engine line that links automatic machines to perform 157 operations, from raw block to finished engine.

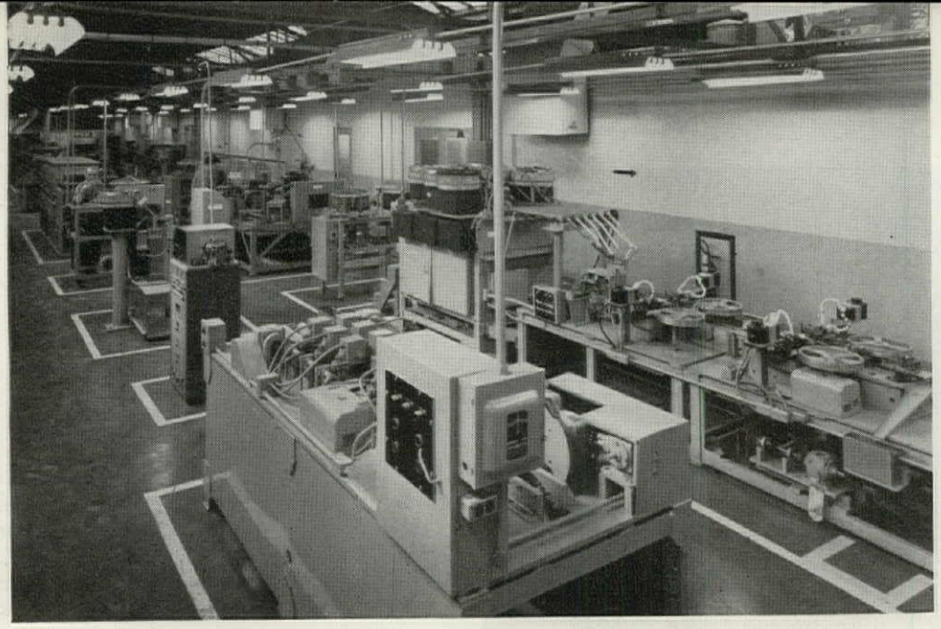
puters at the rate of one unit a minute which would take a worker one day to complete.

Automatic materials handling

This category of automation, involving conveyors, pipe lines and other mechanisms long in use, pervades nearly all other categories, but stands on its own in the recent development of automatic storage and warehouse facilities. This type of operation, common to all industry and a wide range of business activities, replete with waste motion, dull routine and low-class labor, is fertile ground for the automation engineer. An outstanding example of its adaptation to present conditions is Dasol Corp.'s new system designed for Mengel Stores, Inc., in which, at the instigation of Architect Lewis Davis, a sprawling warehouse operation for a chain of clothing stores was compacted on two redesigned floors of an old Manhattan building, with modernized sales and executive offices sandwiched in on a floor between. Electronic controls and conveyors automatically direct goods from 5,000 suppliers to bins and racks, withdraw and segregate shipping orders at a capacity rate of over 200,000 units a day. Loading and packing are still done by hand, but labor is cut more than in half.

Nearly all these examples fall short of full automation in a most important respect: they have little or no feedback of information to control automatically an entire system. To achieve this, most authorities agree, will require a synthesis of all forms of automation, with the electronic computer or data processing machine acting as cortex and nervous system to program, phase and check operations, eliminating human operators





Automatic assembly is epitomized (left) in the machine line of ACF Industries at Alexandria, Va., which puts together ceramic wafers holding printed circuits and components into complete radio circuits.

in the link. Some of this integration is already taking place. Mechanization and electronics are growing together in complexity. Once a computer learns to handle total sales, manufacturing and production forecasting data for a company, it will be no great step for it to begin to take over production controls. Enough of automation is now visible to indicate that it will profoundly change the concept of factory and office, and with this the whole physical plant in which the world's work gets done.

The lonely ones

Architecture's first concern is quite properly the human element, and automation's major impact will be here, with consequent implications for structure and design. Nearly all indications thus far are that automation's main effect will be not so much in the decimation of workers as in a general upgrading of the labor force. Unskilled and semiskilled labor will give way in large part to highly trained maintenance task forces to keep complex mechanisms and electronic systems going, with a few skilled operators to oversee the actual running of plants. In a development never foreseen by Marx, the workers or proletariat will become white-collar technicians.

Some painful dislocations may come in the shift. But up to now most moves toward automation have created as many, if not more, jobs than they destroyed. Moreover, the immediate pressures for automation are in areas where labor is short, such as clerical and warehouse operations. So that, on balance, with some forward planning and continued economic growth, dislocations need be only temporary.

Nearly all authorities up to now have regarded as a major beneficence automation's taking over of dull, dirty, routine tasks by automatic controls, freeing men for more interesting or higher occupations. And transformations can be dramatic, a warehouse worker appearing in a newly automated plant one morning wearing a white shirt and a new dignity. But Europeans, more sensitive to philosphic currents than others, have begun to find these benefits not wholly unalloyed in higher automatic processes. At a recent symposium in England it was reported that many skilled operators in highly automatic plants tend to become bored and lonely. Muscular inactivity combined with greater responsibility and stress also created problems, and daily confrontation with the high rationalism of automatic processes often induced a paradoxical desire for irrationalism. Labor unions in the British petroleum industry are beginning to demand extra "lonely money" for operators at isolated plant control points.

"The fundamental problem," said G.E.C. Burger of N.V. Philips, Europe's biggest electrical manufacturer, "is how to use an intelligent operator, whom we retain as insurance against breakdown, when the process is functioning smoothly for long periods. The routine of data logging and inspection is not enough. We are still left with the difficulty that an individual technically competent to deal with emergencies is likely to find the lengthy periods of routine unsatisfying."

Thus, to work properly, automation requires that the human links in the system be studied more and more carefully. While the lower density of human population in automated plants will allow fewer service facilities, now comprising a large part of factory costs, it may require a higher quality and different character of facilities than any heretofore. To break the monotony and muscular inactivity of automatic-process watching, communal rooms and sports areas may be needed for periodic rest periods. And a small library may not be out of place, for control-panel operators, at least in Europe, are found to be great readers while on the job. To hold intelligent men, a general refinement of working areas will have to take place in the automatic factory of the future, and this is where architecture can play a vital role.

Shapes to come

On the probable shape of automatic plants and offices to come, some larger generalizations may be made. Both plant and product, it is generally agreed, must be redesigned before full automation can work. Lord Halsbury likens the industrial plant to a lobster which must shed its shell before it can enter a new phase of growth. Industrially this means a very large investment, which is why it is likely to be slow. Close cooperation between automation engineer and architect will be needed from the earliest stages—the engineer to determine the flow, physical volume and technical design of the new system, the architect to modify and encase it in a form most fitting for its full functioning. If either enters the planning too late, as has happened in some of the partial automations to date, awkward compromises result. Some considerations revealed to date:

Space

Automatic systems so far installed show space savings of 50% or better over older processes of equal capacity. At the same time, automation lines must be well spaced to allow quick access for maintenance, flexibility for change and growth. The space-saving features of automation make it a powerful tool for the rehabilitation and growth of light industry and business



INDUSTRIAL PHOTO SERVICE

Automatic materials handling is dramatized (above), in the new automated warehouse of Brunswig Drug Co., Los Angeles. A computer directs order filling from this bank of 1,800 product chutes.

in old urban centers, as in the Mengel warehouse, but complete automation will require completely new structures.

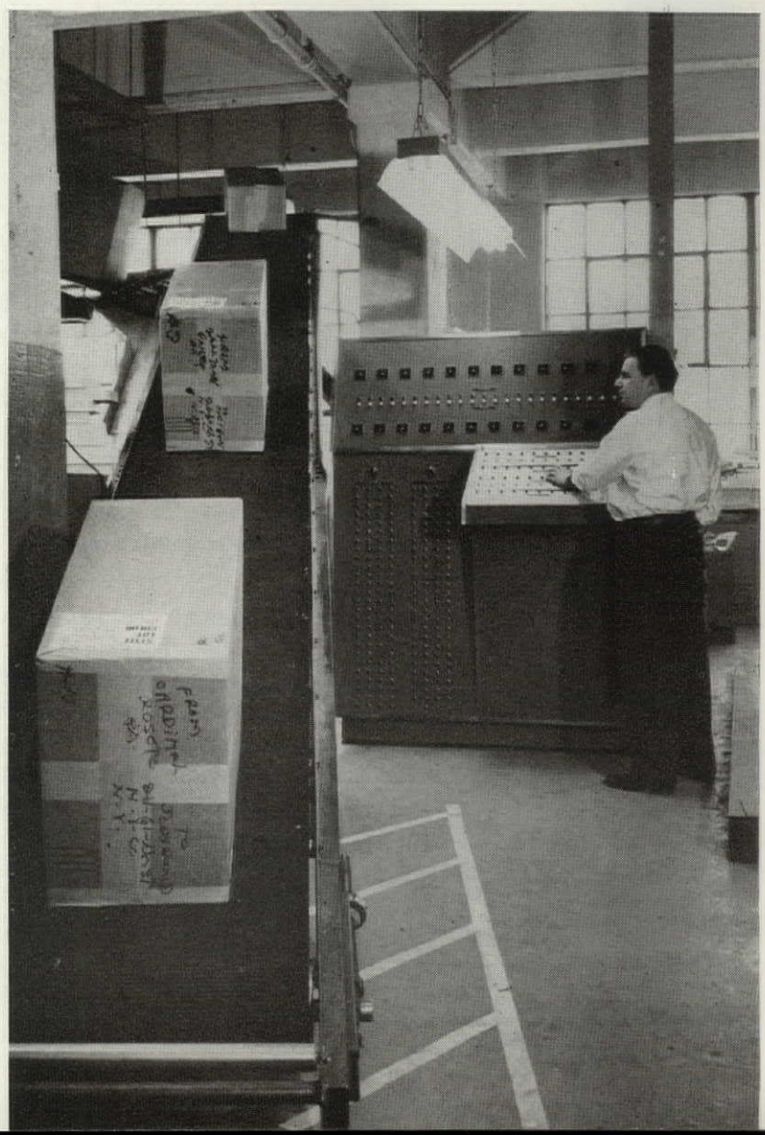
Structure

The present low horizontal sprawl of industrial plants is dictated not only by the flow of materials but of men. With men removed from the factory floor, automation will allow more multilevel vertical construction to take advantage of gravity for conveyor systems, more economical construction of walls. Walls and floors themselves may disappear from large areas of the plant, depending on the nature of the materials and the climate, floors being replaced by simple catwalks for maintenance crews, walls being opened to air. Such services as lighting, air conditioning and elevators may be greatly reduced or dispensed with. Subassemblies may feed down from separate grid structures more logically into one long final assembly line. Architecturally, the horizontal monotony will be broken by a return to the multistory factory, with open towers and closed turrets more and more resembling a chemical plant.

Arrangement

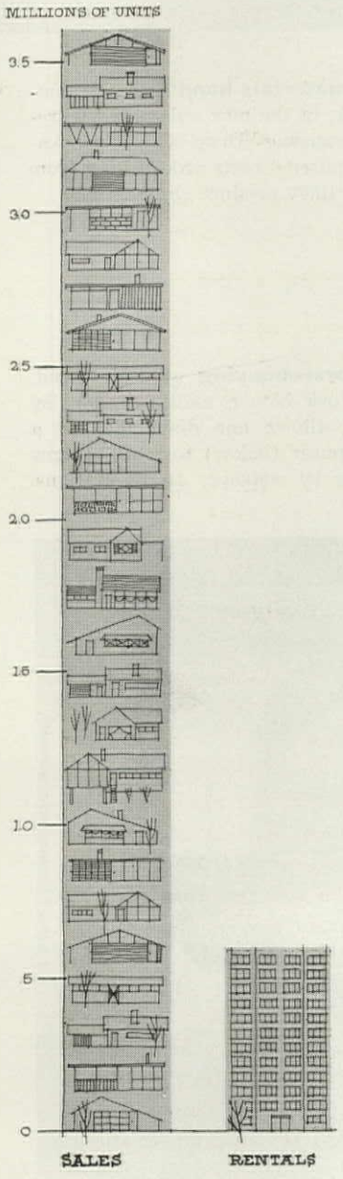
The separation of functions allowed by automation, remote controls and such devices as closed-circuit TV will allow some entirely new groupings and decentralizations of large plants and whole industrial complexes. Manufacturing, engineering and administration may be separately located at suitable sites, urban, suburban or rural, yet closely linked by telecommunications. Internally, a large plant complex may be grouped in an industrial park around a control and communications subcenter, which in turn is hooked into an executive center some distance away. The office building of the future will more and more resemble a data-processing communications center.

Automatic warehousing at Judy Bond, Inc., New York blouse manufacturer, by Dasol Corp., allows one dispatcher at a DASAC computer (below) to route cartons automatically by conveyor to 23 stations.



For 23 years, FHA has spurred suburban homebuilding,
largely ignored city apartment building.
Now, urban renewal is forcing FHA to heed the city's housing needs

FHA in the city



FHA's unbalanced mortgage insurance programs show up clearly in this comparison of rental vs. sales housing units started since 1935. The only time FHA generated any real volume of rental housing was under the ill-fated 608 program from 1947 to 1952.

Armed with the hindsight of twenty-three years of history, it is today possible to trace the development of the Federal Housing Administration, to pinpoint its triumphs and failures. At the time of its founding, it didn't seem likely that it would turn into an agency almost wholly devoted to suburban housing, or that its early occupation with progress in planning and design would soon become submerged by its fiduciary aspects. Yet that is precisely what has happened to the private enterprise branch of federally supported housing.

The consequences of this development have been critical for both our cities and their suburbs. FHA's long-run failure to spur any significant volume of city housing, as that became important later on, has contributed directly to a deterioration of the cities. Its overriding concern with "insurability of the risk" according to rigid formulas for sales housing has had a few confining effects on FHA's rather astounding creation of our new suburbia. This article will analyze the effects of FHA's tardiness in the city. Next month: a look at FHA policies as they have molded the suburbs.

FHA's double standard

When FHA was created by the National Housing Act in 1934, FORUM hailed it as "a measure which distinctly qualifies as social legislation." Like other observers of the stagnant building scene of the early thirties, FORUM saw in the FHA the hope not only of regenerating the construction of homes, but of putting homebuilding on a higher level of physical and fiscal performance than ever before. FHA had a clearly stated mandate to establish new standards of design and construction as well as new standards of mortgage financing. The establishment and maintenance of higher standards of building emphasized the distinctly social character of FHA at its creation.

FHA's social character has undergone much mutation in nearly a quarter of a century. But in many respects the FHA record of accomplishment during that period is impressive:

- As an insurance agency, FHA has been a great success: over 4.2 million housing units insured since 1934, representing over $40 billion, with losses held to only six-hundredths of 1%.
- As a pace-setter for design, site planning and construction standards, FHA did a noteworthy job in breaking the homebuilding industry free from the malpractices of the twenties. But once new, higher standards were set, they hardened into dogma and in time became more of an inhibition to further progress than a release for it.
- As a generator of generally sturdy, middle-income housing, FHA's record is impressive. The 4.2 million units that FHA has insured in 23 years is nearly 30% of all nonfarm housing built in the whole country during that period. The significance of its role in spurring this volume of housing cannot be overemphasized.

But FHA's mortgage insurance program, as legislated by Congress and administered by FHA, has been badly out of balance. Roughly 88% of FHA's activity has gone into sales housing, while only 12% (about 680,000 units) has been turned to production of new rental housing.

Behind these statistics lies the shadow of FHA's giant role in the

—by DAVID CARLSON

growth of our land economy, particularly in the past 12 years. It has centered its housing program on the American suburb. Indeed, with the mortgage guarantee program of the Veterans' Administration, it has encouraged the creation and growth of the suburbs. "FHA-town" has become a synonym for the suburbia—acre on acre of low cost houses planted in their subdivisions with tedious care, yet combining to form a tangled sprawl that threatens to strangle the very cities they surround.

Of course, FHA was not created as a planning agency in a broad sense. Its New Deal designers created it rather in the image of a private enterprise to promote the public purpose of housing. But the public purpose quickly became subordinated to the efficient operation of the private enterprise. Today, FHA Commissioner Norman P. Mason says: "Our prime concern is with the insurability of the risk." And this is indeed the yardstick by which FHA itself wishes to be judged. Getting a given volume of housing built is politically advisable, but FHA long ago found that risks were more easily insured in the cut-and-dried field of individual homes than in the complex area of rental projects. Thus, it stands patiently by, prepared to underwrite any home mortgages that meet the barest qualifications as set out in its minimum property requirements.

When it comes to insuring urban-rental housing mortgages, FHA operates quite differently. True, the risk is different—more speculative, more subject to economic disturbances and demographic variances. But these are factors of risk. FHA also strictly limits entrepreneurial returns and methods of operation to an extent it never does for sales housing. It carefully assays the market for rentals, appraises property by much stiffer standards than for sales housing, and then hovers, hawklike, over the project for the full life of the mortgage. (So thorough is FHA's analysis of rental projects that the lenders themselves, including the biggest insurance companies, seldom do more than leaf through the details of an FHA-insured project.)

The result of this double standard for sales (largely suburban) housing vs. rental (largely urban) housing has been not only a bulging suburban collar for our cities, but a degeneration of the urban centers themselves. While the FHA program has boomed suburban scatteration, it has done little to promote decent, attractive rental housing in the city. Thus, those families which provide much of society's vitality, those who are climbing the economic-social ladder, have pushed away from the urban center. This is particularly true of young families in the first few years of marriage. Formerly these families were a major source of demand for rental accommodations, but now many of them start right out with a low down payment, FHA-insured house. Their departure from the city and the exodus of other family groups has left behind only those who cannot or will not follow: the very rich, the poor, the elderly, and the segregated. Thus the city is left with three basic types of housing: tenements, a few luxury apartments and public housing.

Despite the fact that urban-center population has grown 18% since 1940, rental units as a percentage of the total supply of dwelling units have steadily declined since FHA was born. In 1934, around 52% of all units were renter-occupied. The Depression swelled this ratio to 56% by 1940, mainly by crowding families into existing apartments, since there was little new rental housing built in those years. Last year, however, only 40% of all units were occupied by renters. Economist Louis Winnick has noted that from 1940 to 1950 the total number of renter-occupied rooms declined "perhaps for the first time in history."

Whatever ancillary causes might be cited, certainly FHA's rental housing programs have contributed to urban decay simply by their lack of volume and vigor. Since 1954 urban renewal programs have come to the fore. FHA has been called upon to play a pivotal role in them and can no longer shun its long-standing obligation to the city. Yet it has been slow up to now.

Does renewal mean a new look?

FHA initially approached urban renewal even more gingerly than it did earlier rental programs. With a background of indifference to rental housing since birth, and one bad experience in rental housing—the windfall profit scandals of 1954—FHA was understandably fearful of urban renewal. But urban renewal, though slowed badly by FHA's early muddling, may yet prove something of a boon. As the clamor has grown to get something done under Section 220 (the urban renewal section of the National Housing Act), FHA has gradually thawed its rental freeze. At first adamant about establishing "the insurability of the risk" before it would budge on anything else, and being ultraconservative in appraising land and plans for 220, FHA has begun to bend to the pressure. Recently, it has overhauled its rental housing policies in an honest attempt to get the program moving. At the same time, it has loosened some provisions in its regular rental section, 207, and its cooperative section, 213.

The result of this tinkering has been to roll up what now looks like the best volume of FHA-insured rental housing starts since 1954. And if applications for new projects continue to flow as they have so far, it could be one of the best ever for Sections 207 and 213.

First indications of this loosening up come from New York City, the

center of FHA-insured rental activity. In the first six months of this year, starts under Section 207 totaled 3,000 units for this unique city. (Last year, there were only 538 starts under 207 for the whole country.) Altogether, the New York office has approved some 8,000 units of 207 housing and over 4,000 units under Section 213. Section 220 shows 5,000 units under construction (there were only 1,051 units for the whole country last year) and another 7,000 approved.

If, after nearly a quarter of a century, FHA can come up with a workable formula for urban housing, it would indeed be encouraging for both urban renewal prospects and for healthy growth of urban areas as yet untouched—or only lightly touched—by blight. But there's apt to be a good bit of justifiable cynicism about this. Is it indeed a shift in FHA's perspective or do these figures represent merely a short-lived bubble in volume, accentuated by the fact that in 1956 there was next to nothing built under FHA rental programs? For one thing, FHA is unlikely to spur very much rental building without getting some new legislation from Congress. Although it has broad regulatory powers, and has already demonstrated that it can cause wide fluctuations in volume by federal fiat, FHA would probably be unwilling to go out on a limb very far without further encouragement from Congress.

This caution is more than simply that which is native to any federal bureaucracy. FHA's peculiar attitude toward rental housing is a legacy from both the wording of the original National Housing Act and its recent shattering experience in this field. These are key elements in understanding why it is that FHA, through all but five brief years, insured a negligible volume of rental housing at the same time that it was insuring as many as 328,000 units of sales housing in one year.

When overblown values were smashed in 1929-1930, rental properties fared even worse than many other investments. It became obvious that too many rental properties were shakily capitalized, that too few were shored with adequate reserves. In efforts to maintain their income, landlords crammed more people into their properties, and the people, with their own incomes pared, unhappily let themselves be crammed.

The built-in bias

Congress didn't miss the lesson that the crash taught. If FHA was to insure rental properties—and there was serious debate favoring no rental housing insurance—it would be under strictly regulated terms. Thus, when Section 207 of the NHA was written, it was brief and to the point: Mortgagors of rental property were to be "regulated or restricted by law or by the Administrator as to rents, charges, capital structure, rate of return, or methods of operation." Under FHA, rental property would become almost an adjunct of federal government. And under FHA, builders, who formerly went into rental building because of the chance of occasional spectacular profits, even though risks were higher than for most other building, were to become investors—they should be satisfied with a carefully controlled low return over a long-term in exchange for mortgage insurance covering 80% of the value of the project.

FHA's strict rental program languished for its first three years. Then, in 1938, Section 207 was overhauled and restrictions eased somewhat. That year there was three times as much rental housing built under 207 as in the previous year. But it was too late. Depression was soon elbowed out by war, and FHA practically abandoned all its normal rental operations. FHA never developed a full-fledged rental housing program during the Depression, and five years of war withered what activity there had been. The war brought a new definition of risk to rental housing: for the duration, a project needed to be nothing more than "an acceptable risk in view of the emergency." The prime concern became not the risk, but the emergency.

As a later generation has found, almost anything can be put through in the name of defense—or emergency. In 1942, a new rental section was tacked onto the National Housing Act. Section 608 of Title VI provided vastly easier conditions than Section 207 and gave great flexibility to FHA for approvals of projects that would never have been okayed under 207.

The "emergency" lasted much longer than the war. Congress found it expedient to extend 608 as a

continued on p. 204

TITLE VII—FUTILITY AND DEFICIT

Of all FHA rental-housing provisions, none is so bizarre nor so futile as Title VII, commonly called yield insurance. Passed by Congress in 1948, this measure framed in the most absurd terms the fanciful notion that investors existed who would be content with low returns over a long term, if the government guaranteed that return.

Title VII said FHA would guarantee to investors in rental projects an annual yield of 2¾% on their outstanding investment, plus income sufficient to cover 2% annual amortization of principal. The Treasury was given authority to put up to $10 million into a revolving fund for Title VII, and it put $1 million into it initially.

There has never been an application for Title VII yield insurance. But in the nine years since 1948, the simple existence of this useless piece of machinery has run up a deficit of over $65,000.



JOHN SZARKOWSKI, "THE IDEA OF LOUIS SULLIVAN," © 1956, UNIVERSITY OF MINNESOTA

Instead of relying on good design, restaurants usually seek identity in neon and character in gimmicks. Here are six successful exceptions

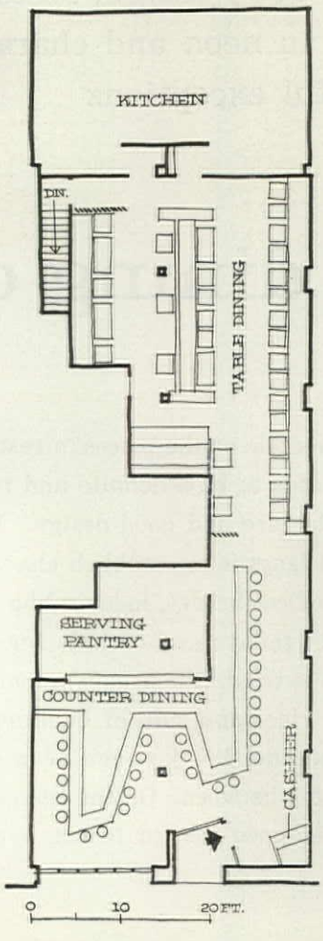
Atmosphere for dining out

Regardless of the menu, the clientele or the prices, a restaurant needs more than good food and prompt service—it needs to be a definite and remembered place. Obviously, this should be a job for architecture and good design. But surprisingly, the average restaurateur will go to absurd lengths to establish character without architecture or good design. Signed sketches of celebrities, memorablia of the proprietor's days as a fight manager, fireworks for birthdays and orchids for the ladies are all more commonly used. Even when design is tried, it is usually a matter of maroon and chartreuse decor, with dust-plated plastic vines and tubs of bubbling orange juice reflected from gold-tinted mirrors—not to mention the jazz-age neon sign outside. In this frantic arena, exceptions are few and far between. On the following pages are six such exceptions—all use architecture and good design to set a unique and fitting character.



PHOTOS: (ABOVE & BELOW) LENI ISELIN; (LEFT) © EZRA STOLLER





IN MIDTOWN NEW YORK, A NOONTIME CHANGE OF PACE

Barrie's atmosphere was calculated to soothe the morning shattered nerves of New York's Madison Ave. secretaries and junior account executives. It's standing room success, however, has thrown the calculation somewhat awry. Still, it works, and works well. Architect Arthur Silver wanted to "avoid the stigma of a luncheonette." To achieve this, he used a range of natural materials and a quiet color palette. Table tops are oil-finished, made of alternating strips of maple and cherry. The trimly detailed wood ceiling and divider screens, as well as the wall paneling, are walnut and birch. The rear wall of the dining room and the left wall of the counter area are natural white Arkansas brick. A blue Granitex Mosaic tile wall separates the counter from the serving pantry. Graphics by Stuart Williams.



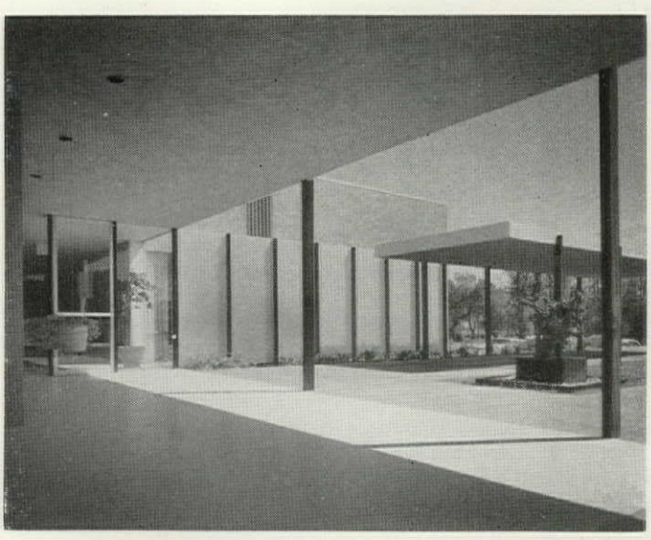
PHOTOS: DEARBORN-MASSAR



IN A PORTLAND HOTEL, ALCOVES FOR THE BUSINESS LUNCH

The London Bar was taken out of the lofty lobby of Portland, Oregon's Hotel Benson to provide a sheltered, clublike atmosphere for the noon lunch trade and the afternoon cocktail hour. Designer Arthur Morgan eschewed the normal solution of new walls and a dropped ceiling. Instead, he achieved the essential separation from the remaining lobby area with simple screens of walnut-framed grass cloth. The intimate effect of a lowered ceiling is achieved by low-hanging brass ceiling fixtures. The bar and table tops are white terrazzo. Seating is covered in orange leather. Carpeting is specially designed in a black and orange-red striped pattern. One indication of the designer's thoroughness is evidenced by the provision of a leather-padded bar nosing—protection, we assume, for crash landings.

PHOTOS: MARVIN RAND



IN THE SAN BERNARDINO VALLEY, A TABLE-SIDE WATER GARDEN

The Stuft Shirt is a green oasis 35 mi. out of Pasadena on the way to Palm Springs. Soon to be backed by a 60-unit highway motel, it now caters to highway travelers and personnel from nearby industrial plants and offices. Appropriately enough, the rather solid front of the highway approach gives way to an interior water garden running the length of the main dining room and into the banquet room beyond. Project Architect John Kelsey, of Thornton Ladd Associates, carefully disposed huge slabs of native rock and Hawaiian and Australian tree ferns in the table-height pond; he also provided natural light filtered from the skylight overhead with arched sheets of milk-white plastic. Over the water are pendant paper lanterns by Isamu Noguchi.

The second major design motif is the arched Y-shaped booth dividers and serving stations, which are backed by Indian sari curtains hung adjacent in a repeating form. Structural engineer was Carl Johnson.

MORLEY BAER

WYNN BULLOCK

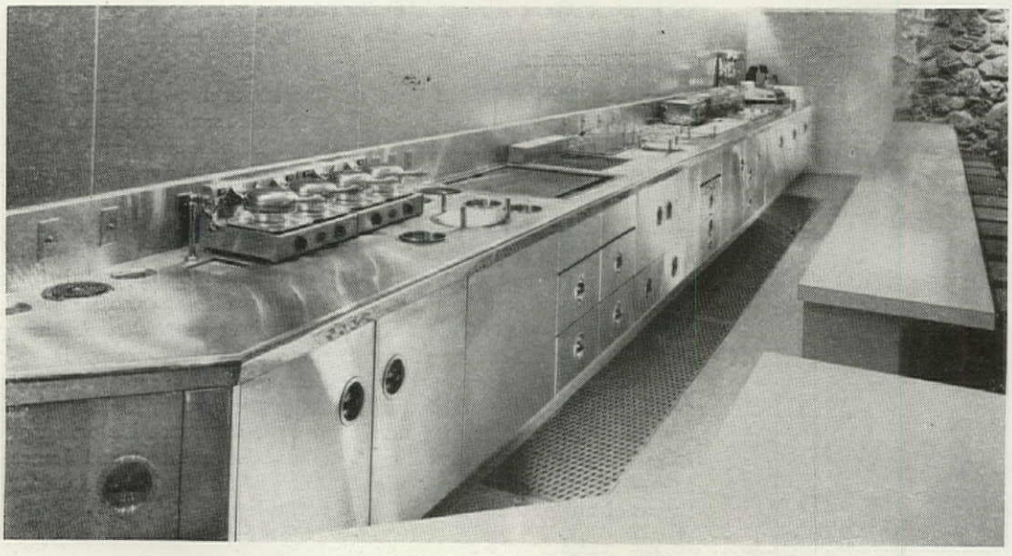


IN A CALIFORNIA MOTEL, A QUIET GARDEN VIEW

The Mark Thomas Inn at Monterey is ranged around a cluster of casual court gardens redolent with huge oaks. Architect John Carl Warnecke plotted the three-stage growth around three of these courts, with all development oriented inward, away from the perimeter access roads (AF, Aug. '56). The restaurant stands at the head of the second court overlooking a patio and swimming pool cast in deep shade from the overhead branching oaks. Inside, it extends the theme of an intimate and club-like atmosphere by using four small interconnected rooms instead of one large one. Each room has a view through heavy-mullioned glass walls onto the exterior court. The luxurious California theme is expressed in the metal and wicker chairs and the Mexican-made plank-top tables. A minor theme of old Monterey is reflected in the decorative metal grillwork used in the entrance lounge. Lawrence Halprin was landscape architect and James Aldrich handled the interior decoration.

PHOTOS : ERNEST BRAUN

AT A STANFORD SHOPPING CENTER. AN OPEN HOUSE FOR STUDENTS

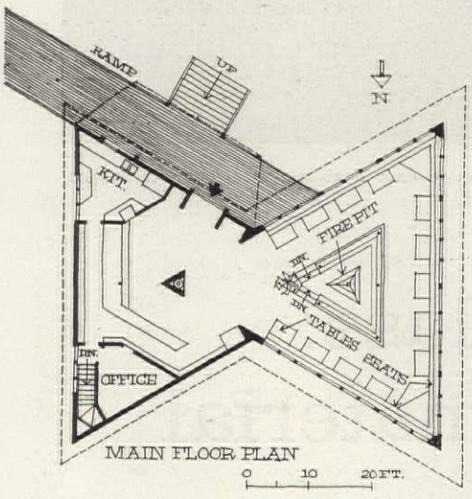


Sandy's Kitchen is located off the main stretch of Stanford University's Palo Alto shopping center, but it is separated from the adjacent campus only by a parking lot. Architect Mario Gaidano, with an eye to the typical college student's insatiable appetite, opened the front wide to the tempting vision of hamburgers prepared to order. This exposure required particularly close design of the stainless steel, brass-trimmed back bar. The furred ceiling overhead contains lighting, air conditioning and exhaust fans, ends outside in a lighted plastic panel. Martin Snipper prepared the mosaic panel on the rear wall.



DEARBORN-MASSAR

ROBERT LACKENBACK—LIFE





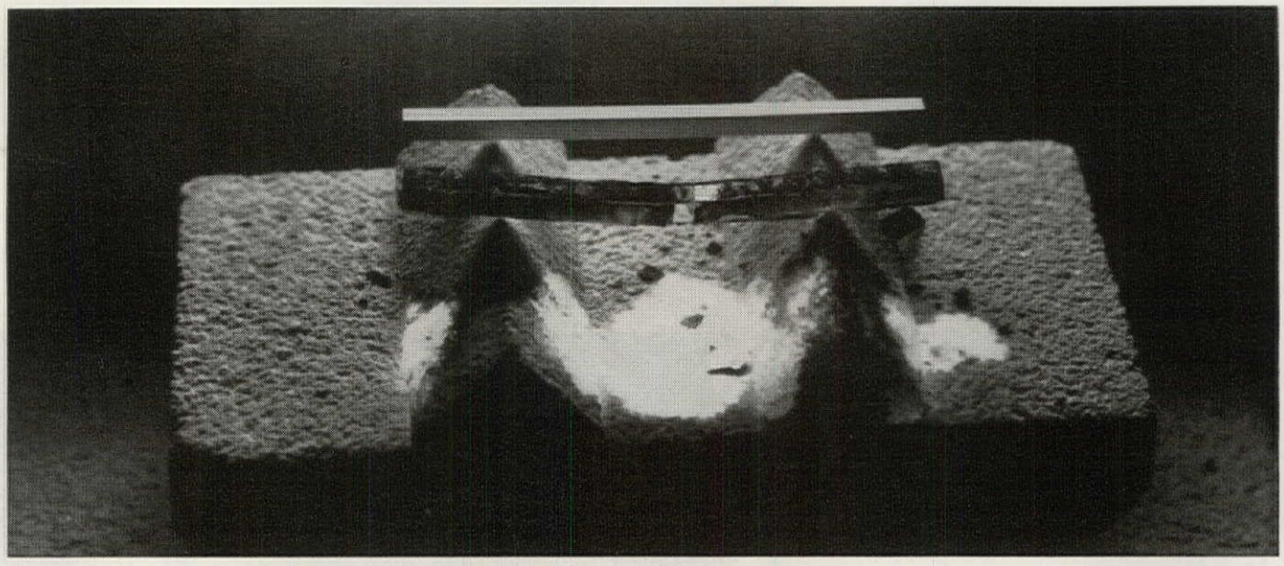
AT SNOQUALMIE SUMMIT,

A PLACE FOR SKIER'S FEET

The Thunderbird is at the upper terminal of the chairlift at Snoqualmie Summit in Washington. The triangular design was a logical outcome of the need for structural wind resistance. But Architects Tucker and Shields used the motif for a central hooded fireplace and surrounding lounge area as well. Tables are ranged around the perimeter glass walls. The smaller triangle contains a gift shop and service areas. Primarily used for filling the stomachs and toasting the toes of Snoqualmie skiers, the restaurant is used for summer charter parties as well. Engineering consultants were Stevenson and Rubens.

Technology

A discovery in Corning Glass' laboratories gives glass many of the properties of metals, with wide implications for building



PYROCERAM STRIP is still rigid and strong after copper bar has melted into puddle in furnace heat and steel bar has sagged

Crystalline glass: a new basic material

Crystals in glass? It was physically illogical. Paradoxically, crystal-clear glass is one of the few noncrystalline solids known, an amorphous mass with no molecular crystal structure. Actually, it is a supercooled liquid of fused silica and other substances. Its structure is like sugar syrup that somehow turns solid without recrystallizing. Yet, on that morning in 1949 in the Corning Glass Laboratories, there it was. A batch of photosensitive glass that had accidentally overheated during the night in a wild muffle furnace was, as determined later, about 70% crystalline.

Early that morning Dr. S. Donald Stookey and his associates had found the glass at a tortuous 1350° C. yellow heat, not in a molten mess but in its original cast shape. Hurrying to rescue it, a technician dropped the batch. Everyone spun away from the expected hot fragments. Instead, a clarion metallic *dlannng* rang through the laboratory. As later analyzed by X-ray, tiny geometric crystal shapes were seen to have formed in the glass in interlocked groups. And thus the same linked crystal or lattice structure that accounts for the enormous strength of steel and other metals turned up in glass.

But was the new material still glass? Sometime during the intense heating—or perhaps cooling—the glass was transformed to another category of finely crystalline materials: ceramic.

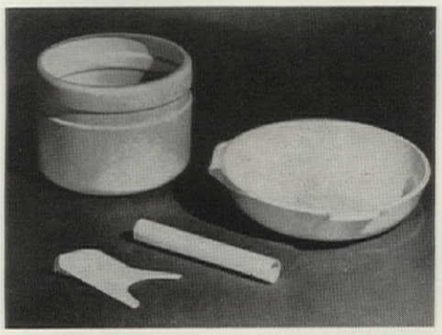
The grainmaker

To Dr. Stookey, director of fundamental chemical research for Corning, the appearance of crystal formations in glass was not entirely new. He had been sowing seeds of gold, silver and copper salts in glass for several years to encourage crystals to cluster around them much as raindrops build up on particles of dust or silver oxide in rain clouds. Scattered crystals did form in the glass, unpredictably, but only to the extent of about 30%. When it was found that this fractionally crystallized glass was sensitive to negative impressions under ultraviolet light and reheating, photosensitive glass was born and numerous decorative applications uncovered. Two types of photosensitive glass familiar in architectural use are the light diffusive Fotolite, a ¼" milk-white grid imprinted through a sheet of clear glass, and the marbleistic patterned glass that sheaths the sides of the UN Secretariat and the General Assembly (see photo, p. 162). When a 70% crystalline form of this glass was discovered in 1949 through a stroke of serendipity, Stookey and his team began to search for fundamentals, two years ago found them and created an entire new family of superstrength materials, called Pyroceram, with specific characteristics. This feat ranks in importance with the creation of long-chain molecules, beginning with nylon, from which the whole family of synthetic fibers has sprung and continues to grow.

The glass chemists soon learned how to make crystals form at their bidding, then to increase the interlinkage up to 100% by regulating the amount and kind of nucleating "seeds" and heating cycles. Inexpensive nucleating agents



RADOMES are rushed into annealing oven when white hot. The final heat treatment will transform them from their clear glassy state to a granite-hard crystalline material.



TECHNIQUES used in conventional glass making—drawing, pressing and casting—are all applicable to the new crystalline materials.

	Pyroceram 8605 (Opaque)	Pyroceram 8607 (Clear)	Pyroceram 8608 (Opaque)	Lime glass	Ceramic Aluminas	Aluminum 75 S Alloy Annealed	St. Steel Type 302 Annealed
Specific Gravity Room Temp. (25°C)	2.62	2.40	2.50		3.61 to 3.67	2.80	7.93
Softening Temp. (°C)	1350			696	1700 to 1745		
Thermal Conductivity (CGS) 25°C mean temp.	0.0100		0.0037		0.052 to 0.058	0.29	0.052
Linear Coef. of Thermal Expansion x 10^7 (25° to 300°C)	14	–7	2 to 3	92	73 (20°C to 500°C)	232	95 (–18 to 316°C)
Modulus of Elasticity (PSI x 10^{-6})	19.8			10.2	40	10.4	29
Modulus of Rupture (PSI x 10^{-3})	37			10	48		
Strength to Weight Ratio M.R. Strength/spec. gr. (PSI x 10^{-3})	14.1			4.05	13.1 to 13.3	14.3	10.1
Hardness Abrasion (sand blast) plate glass = 1.0	27			1.23			

NOTE: Strength to weight ratio: Pyroceram, ceramic and glass based on modulus of rupture per specific gravity. Metal based on tensile strength. Blanks indicate values not yet known, but probably in range of Pyroceram 8605.

were found, exposure to ultraviolet light eliminated, and the entire production process reduced to techniques common in everyday glass-making. As the new demiglass emerged from its state of internal disarray into orderly geometric structures, its external characteristics, too, became controllable. Pyroceram could be custom tailored, according to the extent and shape of its crystals, for particular mechanical, electrical and chemical properties as readily as different alloys are made in aluminum and steel.

More than 1,000 specific formulas came out of the basic study and four of these are now in commercial production. The entire group shares certain characteristics: low density (somewhat lighter than aluminum), impermeability to gases, surface hardness equal to flint (one Pyroceram is three times as hard as *Type 302* annealed stainless steel). Appearance can be varied from completely opaque chalk white to translucent to almost clear with a slight brown-amethyst cast. In the latter, the crystals are so tiny and close to the refractory index of the matrix, that the material is as transparent as tinted plate glass. Thermal expansion coefficients range from below zero (one type shrinks slightly under intense heat) to a low 17. Other types developed in the laboratory could be produced with expansion characteristics to match steel (128) and aluminum (200).

All Pyrocerams have a high ratio of strength to weight, extremely high deformation temperatures and excellent resistance to acid and alkali. Flexural strength of *Code 8605* is 37,000 psi compared to 5,000 for soda lime glass. Elasticity of some types is twice that of window glass and two-thirds that of carbon steel. (For other properties, see chart, above.)

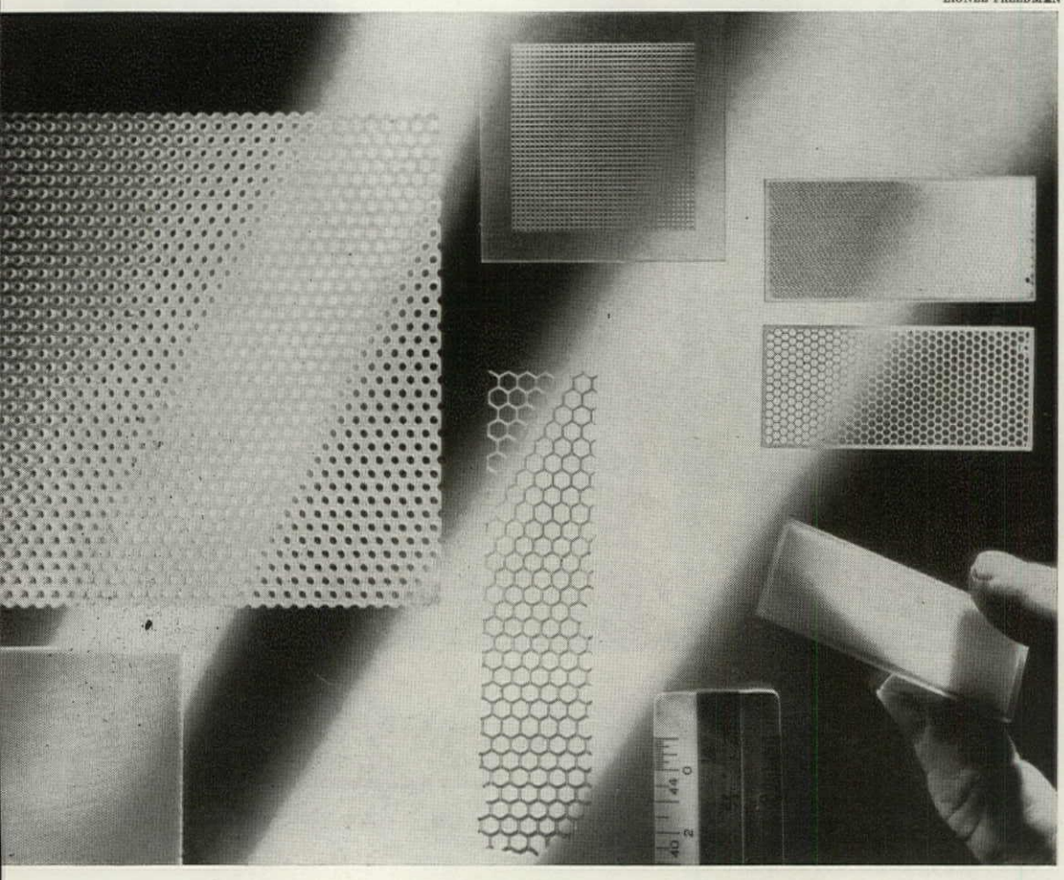
Because the nucleating agents are put in the pot at the first stage of glass production but do not go to work until after the glass is formed into objects and reheated, Pyrocerams present no problems unfamiliar in glass manufacture. They can be blown into vessels, pressed into dishes or lenses, drawn into sheet or tubing as are conventional glass materials. Two other techniques usually associated with metals, investment and centrifugal casting, are also applicable to some Pyrocerams, which are quite fluid in their glassy state.

Tempting etchings

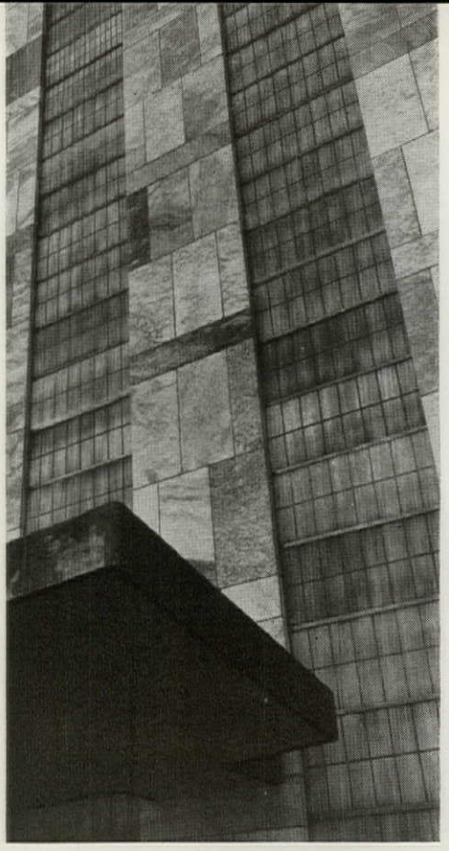
Meanwhile, back at the laboratory, another Corning invention moved closer to architectural reality. On the two days that Corning Glass Works stock soared 19 points on Pyroceram's announcement, a small convoy of trucks toted equipment for making Fotoform glass from the Research Center across the river into Pilot Plant No. 1.

This chemically etched glass possesses a fantastic combination of physical and esthetic qualities that classify it as an all-purpose ceiling. It is beautiful, translucent and lightweight. A member of the photosensitive silicate glass group, Fotoform is carried a step beyond Fotolite. The patterns formed on the glass when exposed to ultraviolet

LIONEL FREEDMAN

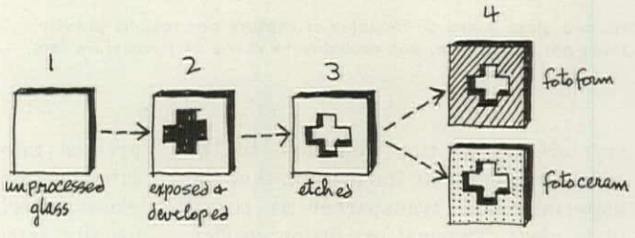


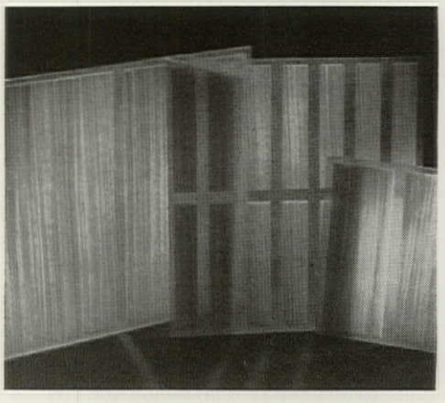
INTRICATE PATTERNS of any size or shape can be etched chemically in photosensitive glass. Holes can be as small as 0.001" and may be formed partway or all the way through the glass.



SHEATHING on UN General Assembly building was first major architectural use of photosensitive glass. A translucent, marble-like pattern is imprinted by ultraviolet light.

EXPOSED IMAGES in photosensitive glass are highly acid soluble and can be etched away without masking unexposed areas, as shown below. Heat treatment may also be used to strengthen the glass.





light and heat are highly susceptible to hydrofluoric acid. They are etched out of the flat sheet without masking, drilling or sandblasting. The grid that remains is as rigid as the original sheet and, in fact, can span greater distances because the holes cut down the weight. Current applications of the lab-produced material include impressively precise vacuum tube spacers and color television aperture screens. Patterned with a tolerance of .001", these minutiae naturally sell high. In plant production Fotoform will be made in sheets up to 4' square, ¼" thin. Prices, depending on the amount of etching and heat treatments involved, are expected to run under $5 a sq. ft. The material can be far more than a light louver, however. It is also a grid for air diffusion and has possibilities as a sound diffuser.

Flat Pyroceram?

How many light years is Pyroceram away from the construction industry? Reporters questioned the speakers at a May 23 preview. Corning's President William C. Decker and Vice President William H. Armistead ventured a few middle-range predictions. Then Dr. Stookey (who had been excused from speech-making on the grounds that it was his birthday) skirted around the folding chairs to take the microphone and boost the new baby specifically as an ideal curtain wall that could be formed in large panels.

Would Corning itself go into production of architectural flat glass? There were historical precedents. The firm started an Architectural Division in 1935. Ornamental silvered glass tiles in the Corning building in New York are mementos of that division's existence. During World War II Corning concentrated on the special glasses for industry that are its forte and folded its architectural wing. In the past 20 years, when new materials emerged that seemed out of Corning's scheme of things but important enough to demand production, new companies were created to handle them: Dow-Corning for the silicones; Owens-Corning for fiberous glass; Pittsburgh-Corning for glass block and Foamglass. Would there be a Something-Corning for Pyroceram and other architectural glass? Designers might just be thinking about it wishfully, but in the past few months a group of polite young men from Corning have been polling architects across the country, asking them some basic questions about a basic building material—glass.

Technology continued on p. 167

Coliseum Park
APARTMENTS

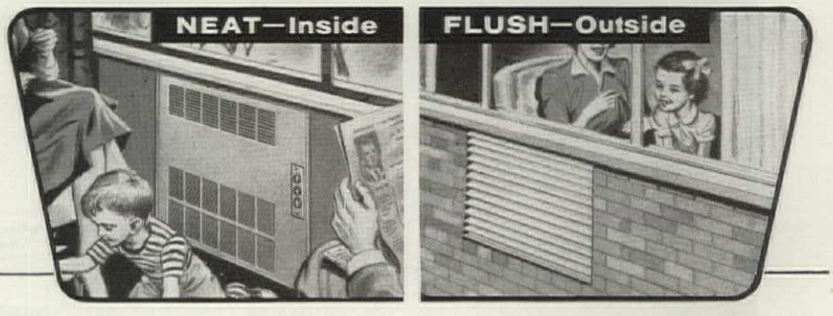


The new Coliseum Park Apartments in New York City are completely air conditioned with 1350 Chrysler's Airtemp Imperial "All-in-wall" units.

Owners-Builders:
I. Orlian & Sons, Rosedale Engineering Corp., Punia & Marx.

Architects:
Silvan and Robert Bien.

AIRTEMP IMPERIAL "ALL-IN-WALL"



Airtemp AIR CONDITIONING

ENGINEERED BY CHRYSLER

makes Individually Controlled Cooling practical for every building project.

World's largest selection of models—**286!**

Dial "Springtime" Any Time



Airtemp CONSTRUCTION
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Phone your local Airtemp outlet about Airtemp air conditioning for your next project. Or write to Airtemp Construction Division, Chrysler Corp., Dayton 1, Ohio

AIR CONDITIONING OR HEATING FOR A ROOM, A HOME, A BUSINESS, AN AUTOMOBILE



16 alleys wide—and not a single supporting column. Truscon's new Clerespan Steel Joists give Miracle Lanes Bowling Alley, Toledo, Ohio, clear, profitable space wall to wall.

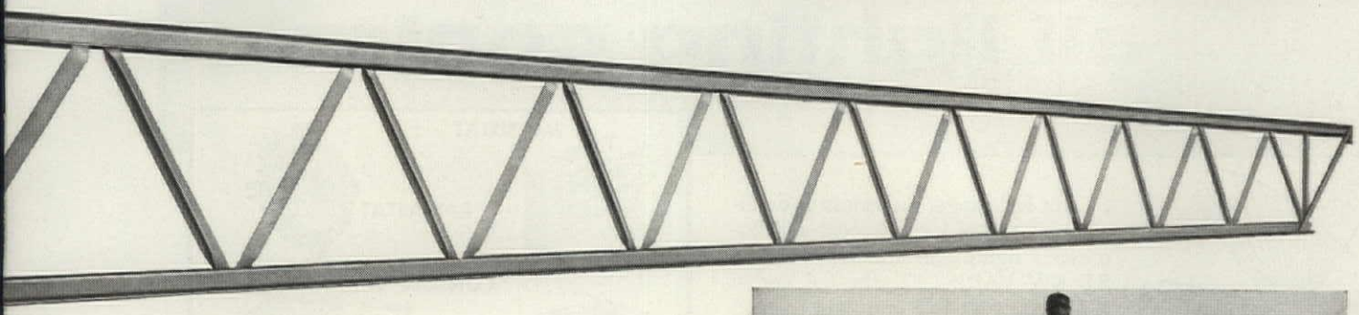
Truscon Clerespan Joist design utilizes a Warren-type truss. Relatively shallow depth allows pleasing exterior design and saves in masonry work by reducing the required height of building walls. Clerespan's light weight allows more savings in lighter framework and footings.

REPUBLIC

REPUBLIC STEEL

World's Widest Range of Standard Steels

..A 96-FOOT CLEAR SPAN!



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CLERESPAN® STEEL JOIST

LONGSPAN SERIES

Now made up to 96 feet long. Load-bearing capacity is predictable and dependable. Send coupon for Clerespan dimensions and loading tables.

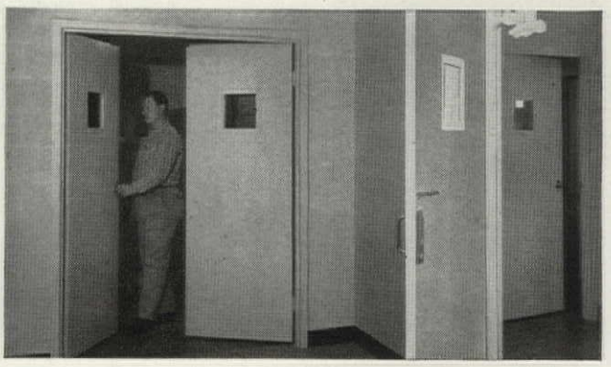


Truscon Ferrobord® Steeldeck, welded or clipped to the top of Clerespan Joists, produces an ideal, fire-resistant roof. Ferrobord is light, easy to handle, easy to place. Long lengths span three or more purlins. It roofs large areas quickly—flat or pitched. Full-length interlocking increases strength. When laid, Ferrobord provides the perfect surface for application of insulation and built-up waterproofing. Send coupon for specifications and tables.

Provide added fire-resistance with Truscon Interior Steel Doors. And, save dollars in the process. Truscon Steel Swing or Slide Doors and Frames are easy and fast to install. There's no need for on-the-job cutting or fitting. No sanding or sealing required. Doors are prime finished at the factory, ready for one-coat finish painting. A wide variety of types and sizes—including various panel and louver choices—is available in Truscon warehouse stocks. Send coupon for details.



Suspend a fire-resistant ceiling from Clerespan Joists by using Truscon Metal Lath, channels and plaster. When plastered, it forms a lightweight fire-resistive "membrane", wall to wall, protecting structural members from any fire below them. Truscon offers more than 40 different Metal Lath items and accessories that are accepted by all building codes. Your plastering contractor knows them.



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Dept. C-3390
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Please forward facts on items checked:

- ☐ Truscon Clerespan Steel Joists
- ☐ Truscon Ferrobord Steeldeck
- ☐ Truscon Metal Lath
- ☐ Truscon Interior Steel Doors

Name_____ Title_____

Company_____

Firm_____

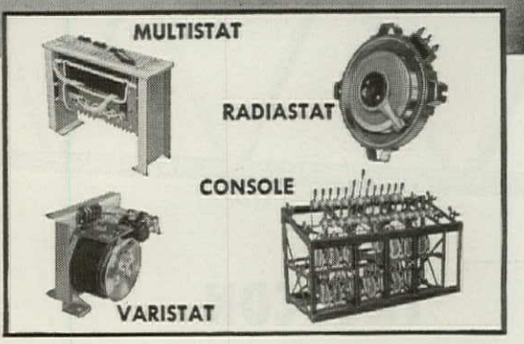
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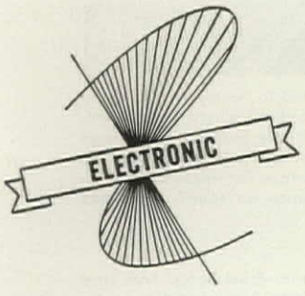
City_____ Zone____ State_____

One source for all lighting control

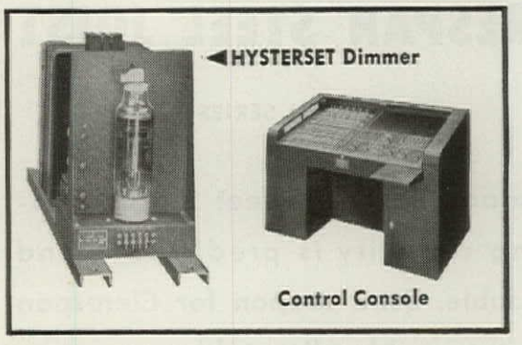


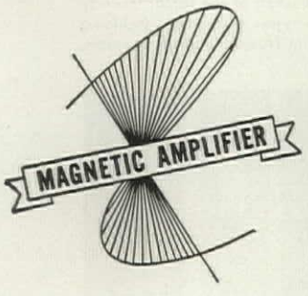
. . . for full range, flickerless and efficient control of incandescent and fluorescent lighting in smallest size. The 2.5 KW VARISTAT, the 6.6 and 8 KW RADIASTATS and the 6 and 12 KW MULTISTATS are available for non-interlocking or interlocking control, manual or remote-control motor operated. BULLETINS 76, 76F and 76M.



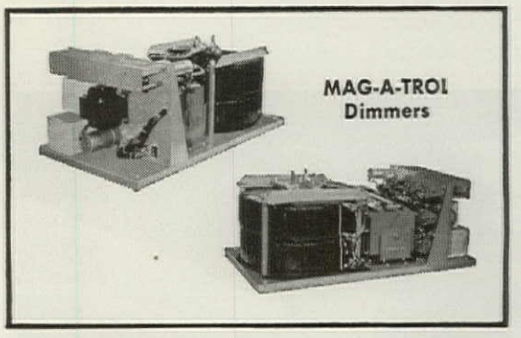


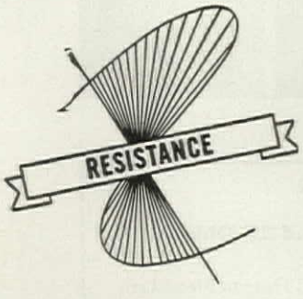
. . . for miniature remote control of lighting, HYSTERSET electronic controls, with remote control console and reactance dimmers, feature single tube per circuit, fast response, miniature pilot controls, extreme flexibility of circuit arrangement, mastering, presetting, and minimum maintenance. BULLETIN 74.



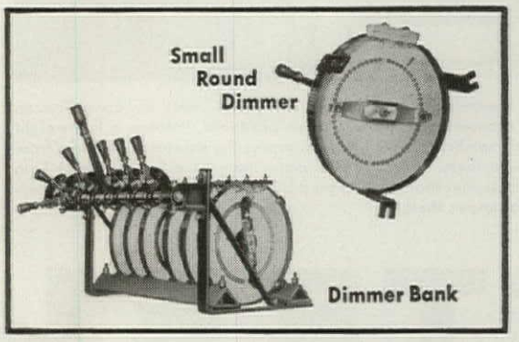


. . . for large theatres, auditoriums or TV studios . . . newest concept in lighting control. MAG-A-TROL magnetic amplifiers feature wide load range, instantaneous response, miniature low-power controls, and *no maintenance*. Ratings from 2.5 to 25 KW per unit. BULLETIN 74 MA.





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Brief accounts of noteworthy developments

HEDRICH-BLESSING



NO COLUMNS, NO BEAMS

The eight buildings in Chicago's new $22-million Stateway Gardens (picture) will be built like monolithic houses of dominoes. In each design, by Chicago Architects Holabird & Root & Burgee, the superstructure is an unusual reinforced concrete box-frame construction, using no beams or columns. Originally a European technique, an early US application was in Providence, R.I. (AF, Feb. '54) on four ten-story apartment buildings. Two of the new Chicago apartments will be ten stories, six will be 17.

The buildings' walls are poured one story at a time, in thicknesses of 6″ to 10″. The 8″-thick floor slabs are monolithic with the walls, which are spaced at 22′ intervals.

Walls are also poured around the elevator and fire-stair shafts, forming a pattern to resist wind forces in both longitudinal and transverse directions. The main portion of the buildings measures 260′-8″ x 39′-0″, with two wings of 44′-0″. Story height is 8′-6″.

AIRPORTS AND JETS

How will the commercial jet transport affect future airport design? The man who will manage Los Angeles' new airport, Woodruff De Silva, tells how the new planes have already influenced planning there.

Says De Silva, the Los Angeles airport will have a "satellite terminal," to which passengers will be transported from a common ticketing facility, by underground passages, escalators and other conveniences to within 100′ of their planes.

Furthermore, the planes in the new airport will not be surrounded by so many servicing vehicles. "Many of these vehicles are potential fire hazards," says De Silva, "and all increase the accident frequency, both to personnel and equipment." Instead, each carrier will have to lay fuel lines to its gate positions.

What about today's most modern airports? De Silva fears that such new ports as in Boston, Chicago, Seattle, San Francisco and Miami will have to revamp their already-completed facilities. Only Los Angeles and New York International, with design plans still fluid, are in a position to adjust readily to the jet transport plane.

VINYL COCOON

Armed with spray gun, inquisitiveness and a tenacious plastic, students at Illinois Tech's Institute of Design are experimenting with the Navy's postwar "mothballing" technique, which may broaden the application of the versatile vinyls in building. Richard E. Baringer, IIT's head of shelter design, believes the technique may eventually yield better and less-expensive houses. To a tubular steel frame (picture) is added a gridwork of cloth tape, spaced at 6″ intervals. The fibers of the spray-on vinyl form a base-coat web across the grid. A second spray coat, with white pigment added to protect the plastic from deterioration by sunlight, shrinks to a rubbery hardness, giving the structure a prestressed skin.



Some advantages, as seen by the IIT group: the skin is moistureproof, needs no rigid framework; construction is fast. A 12′ high shelter, 20′ in diameter, was erected in 30 man-hours.

FAST HEATING SYSTEM

For buildings which need only intermittent heating, such as churches, motels, assembly halls, a Swiss engineer has developed a cold vapor heating system which is six to seven times faster than a conventional system of hot water radiation. Instead of piping water through the radiator coils, Engineer R. Th. Eichmann pipes a refrigerant gas, freon 114. With its low heat value, the freon can be converted from liquid to vapor more quickly and economically than water. Thus, according to Eichmann, the temperature within a church can be raised 34° F. in 1½ hours. Also, with no water in the pipes during shut-down periods, there is no danger of the pipes' freezing.

In principle, Eichmann's system resembles a conventional system of hot water or steam. The major difference: because he substitutes freon for water, there must also be a heat exchanger unit between the boiler and the radiators. The pipes which carry the freon to the radiators first pass through the heat exchanger, where the freon is heated and vaporized. In the radiators, the gas loses heat to space, condenses to liquid and flows back to the heat exchanger for recharging.

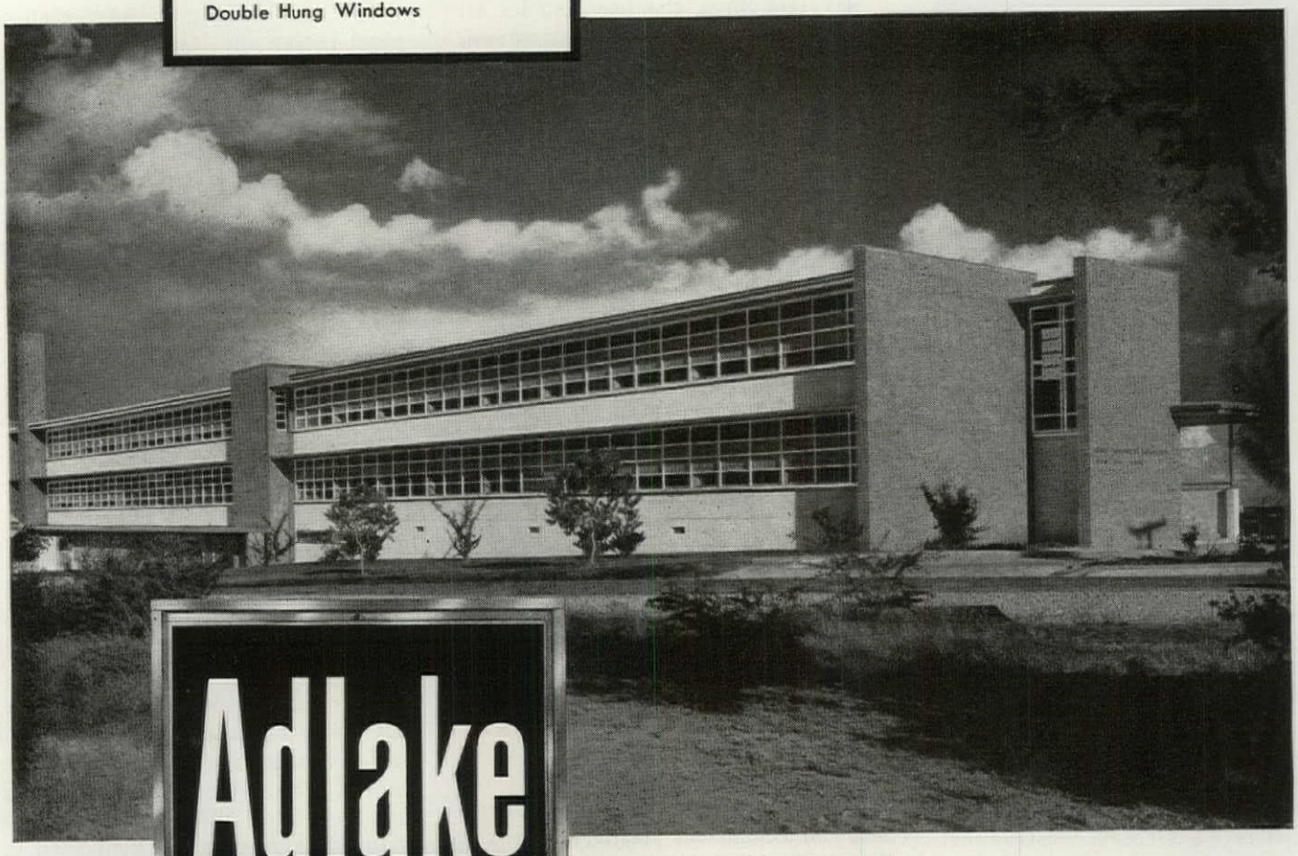
The initial cost of a cold vapor heating system is higher than a comparable hot water system, because of the necessity for the heat exchanger. However, it has been demonstrated in European installations that operating and maintenance costs are lower than in conventional systems.

BUILDING—Longfellow Junior High School, San Antonio, Texas

ARCHITECT—Phelps, Dewees, & Simmons

CONTRACTOR—J. C. Worchester

TYPE OF WINDOW—Adlake Double Hung Windows



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America's Finest Aluminum Windows

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Only Adlake gives these 6 basic advantages:

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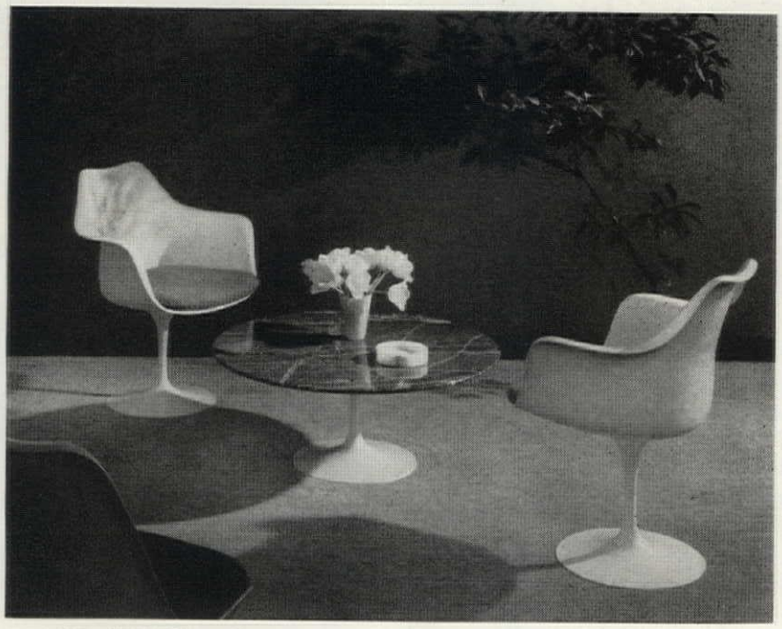
Established 1857

Unipod furniture . . . heat-thwarting skylights . . . tilt-up storefront . . . a review of new developments

SAARINEN STEMWARE
sits well in today's architectural space

The ice cream parlor and modern furniture have come full circle. One generation after the designers who first acknowledged the importance and grace of bent wood Thonet and curled-wire chairs in a tension structure era, Architect Eero Saarinen has now embraced the pedestal table as well. He offers in exchange charming pieces of seating sculpture to poise in a living room, a salon or—perhaps in a long stem version—a soda fountain. The floating tablediscs of marble and hard plastic and the inviting cushions on the plastic halfshell, all perched prettily on their own single bases, will be marketed this fall by Knoll. They are the fruit of several years' sketches, models and full scale experiments—first on resilient friends and then on laboratory stress machines. "I've been wanting to clear up the slum of legs in our rooms for many years," says Saarinen. "I wanted to make the chair all one thing again. All the great furniture of the past from Tutankhamen's chair to Thomas Chippendale's have always been a structural total." These armchairs, side chairs (some of which swivel on their aluminum stems) and collarbutton tables will be joined by structurally total couches and lounge chairs. Like well-mannered bar stools, the swivel models return automatically to front position when vacated to prevent any askew look. The pieces pictured are prototypes. Production models are expected to run with the other "low priced two," i.e., Eames' chairs and Bertoia's. And so, with a touch of the same quiet greatness that poured into the General Motors Tech Center, Saarinen has lifted up the modern shell chair from its not-quite-fitting forest of little stick legs and created a purer breed of unipods.





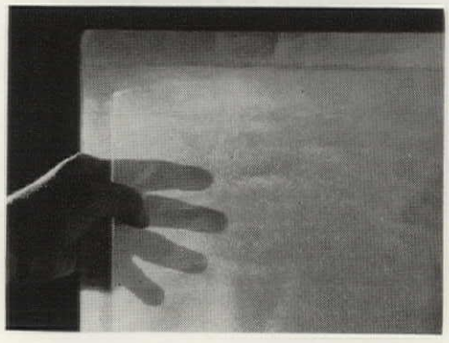
PHOTOS ABOVE: SCOTT HYDE

Manufacturer: Knoll Associates, Inc., 575 Madison Ave., New York 22, N.Y.

REFLECTIVE SKYLIGHT
lets through useful light, foils heat

Negotiating a sensible truce i the skylight vs. skyheat battle, Wasco has engineered a plastic dome that rejects discomforting radiant energy and glare and transmits only soft, useful daylight. Furthermore, while the inconstant sun hourly changes in its circled orb, the *Reflectadome* lets through an almost uniform quantity and quality of light. The new element in the *Wasco* acrylic dome that governs transmission is a fine loose-weave metallized material called *Solatex Silver*. To increase its reflectance, the

continued on p. 170



Fleetlite Windows
the modern
hospital treatment

- Provides the right ventilation for any weather condition.
- Improves nursing and hospital morale.
- Adds years of maintenance—free life to buildings.

Children's Hospital
Buffalo, N.Y.
James Meadows & Howard; Architects

The tight weatherstripped and interlocking construction of Fleetlite windows stops drafts, dust, noise, rain and snow for extra comfort. Double window design provides the insulating air space that saves heating and air conditioning costs and permits indirect ventilation during rainstorms. Fleetlite windows never need painting or puttying. Save maintenance costs.

Other Fleetlite products of comparable high quality include Double Horizontal Sliding Windows, Sliding Glass Doors, Jalousie Windows and Doors.

All sash easily removable from the inside for cleaning.

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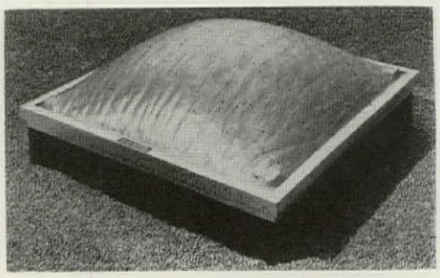
☐ Please have a representative call.

Name.....

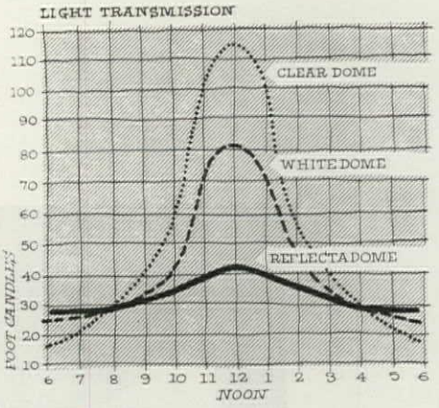
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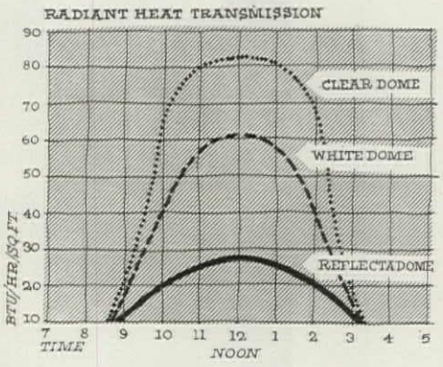
City.....*Zone*.....*State*.....

woven fabric is embedded in the plastic with a permanent wrinkle. In field studies *Solatex Silver* was found not only to



bounce back hot bright rays at noon but also to catch early morning and late afternoon light, thereby flattening out the big hump in the transmission curve of clear and translucent skylights. The data on the charts below were compiled from readings taken at a latitude of 38°—the line that



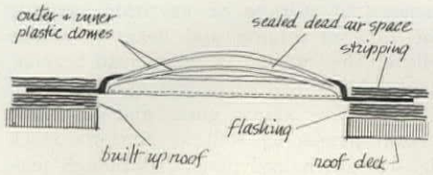


roughly goes through New York and San Francisco. The date, June 21, produces the greatest brightness for that latitude. Sizes of *Reflectadomes* range from 20" square up to 99" x 199". Price of a 36" square is $38.50. Curb and mounting construction are the same as Wasco's standard *Skydomes*.

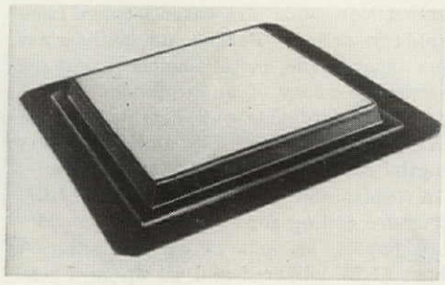
Manufacturer: Wasco Products Inc., Bay State Rd. Cambridge 38, Mass.

LOW DOME SKYLIGHT
flashed to roof by its own flanges

Looks, ease of installation and excess solar energy are all taken into account in the design of Consolite's twin bubble roof



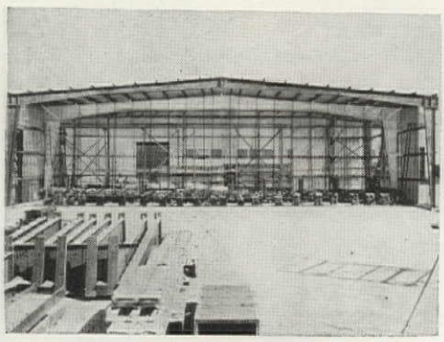
light. Molded of polyester and glass fiber into two layers fused around the edges with air space in the middle, the dome is extremely rugged. Rock, hail and shock resistant, it will support a dead load of



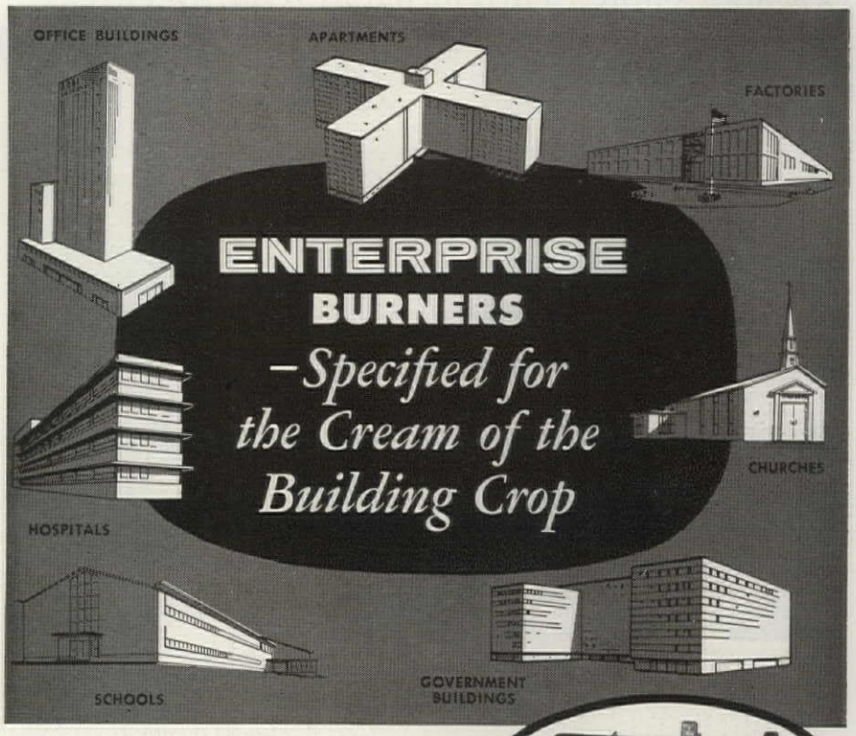
200 lb. per sq. in. Because the plastic composition does not expand or contract to any troublesome degree, the dome's wide integral borders can be flashed directly to a built-up roof. The skylight's sealed layers behave like a thermos bottle, providing a heat transfer U factor of 0.5, while softening intense sunlight in a diffuse pattern. For additional light temperance in areas such as classrooms, pigmented *Double Domes* can be ordered. Engineered for low pitch as well as flat roofs, the shallow skylights present no problem of condensate collection or drip because of the insulating value of the dead air space. Curb mounted and bond type models are also produced with twin plastic layers. All are stocked in round, square and oblong shapes, priced from $25 to $126. *Manufacturer:* Resolite Corp., Zelienpole, Pa.

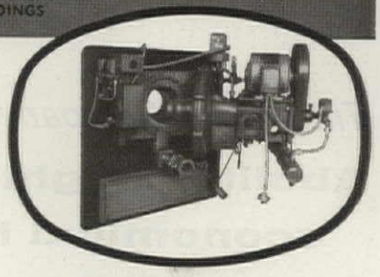
LOW PROFILE PREFAB
spans up to 100′ without trusses

Boasting clear widths of 80′ and 100′ with a subtle roof slope of 1′ in 12′, Butler's new *LRF* buildings bring an air of sophisticated design to the mass-produced utility building. The low, rigid frame structure



continued on p. 172





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The Austin Company specified...

Abolite uplight mercury units for economical high bay lighting

Plans for this new plant called for high bay illumination without objectionable shadows between lamps and ceiling. That's why Abolite aluminum uplight mercury units were specified. The unique open-top design of this reflector provides 18% uplight, washes out ceiling contrasts, gives excellent overall illumination. Cleaner, cooler lighting, longer lamp life, less maintenance also result from the open-top feature.

You can make important savings with these new Abolite uplight mercury units. Compare their performance and cost with other type fixtures. For full details write *Abolite Lighting Division, The Jones Metal Products Co., West Lafayette, Ohio.*

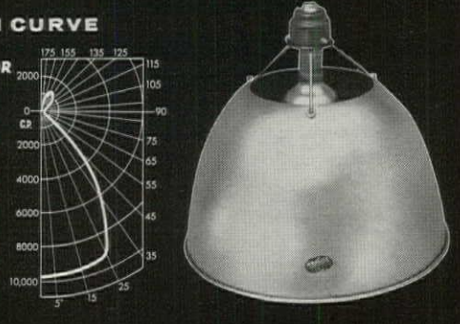
ABOLITE Lighting

LIGHT DISTRIBUTION CURVE

24" DIA. ALUMINUM REFLECTOR

LAMP H 400-RC1

Installation data: 69 units, using General Electric H 400-RC1 color-improved mercury lamps. 35' ceiling, 28' mounting height, spaced on 20' centers. 35-foot-candles average initially.



barriers to storage or partition layouts. The tapered column and beam structure relieve the walls of any load-bearing responsibility and so permit extensive use of decorative skins, glass and insulated curtain panels as well as Butler's stock high-rib galvanized panels. Although pre-engineered and prefabricated, *LRF* wall and roof components can be selected to meet most local building code requirements. The designer can call for a roof overhang, extended eaves with exposed columns, or even a shed roof half-building. The *LRF* roof consists of die-formed interlocking panels that help to weatherseal the roof against rain, wind and water seepage from capillary action. Backed up with glass fiber board, the metal panels have the thermal efficiency of an insulated built-up roof. Standard side-wall heights for the *LRF* buildings are 14′ and 20′. Bay lengths run 12′, 16′ and 20′.

A typical 80′ x 160′ x 14′ high *LRF* structure calling for standard Butler side-wall panels, as well as roof, would cost about $1.75 delivered and set up on a concrete foundation. Utilities are not included in the price.

Manufacturer: Butler Manufacturing Co., 7400 E. 13th St., Kansas City 26, Mo.

SHOP-WELDED STOREFRONT
tilted up in place without hoist

Set in place with as little fuss as a ladder, Overline *Tilt A Front* framing cuts site labor on store fronts in half. The steel mullions are cut precisely and welded in the factory to architect's specifications, and sections are locked together on the job and tilted up from ground level with



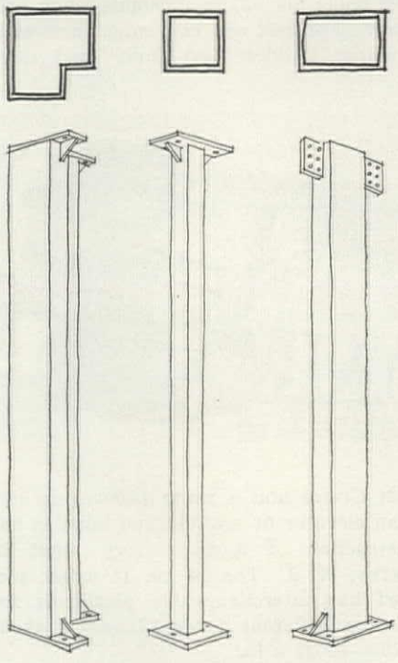


an ordinary length of lumber as a brace. No hoist or scaffold is required, nor is any hacksaw or file needed for fitting. The framing will take single or double glazing, or solid face insulated panels. On the garage showroom job (left), the center shop-assembled section is 6′ wide, 28′ high, and the four side sections are each 10′ wide. Framing and doors are produced with a baked automotive-type enamel finish on bonderized steel or in stainless steel. Installed cost of *Tilt A Front* in enamel finish with one pair of doors and hardware runs about $6.50 to $7 a sq. ft. Stainless steel framing is somewhat more expensive.

Manufacturer: Overly Manufacturing Co., Greensburgh, Pa. and Los Angeles 39, Calif.

SQUARE STEEL COLUMNS
shop fabricated as stock items

Modestly varying the ever faithful lally, Schlagro Steel is offering square and rectangular columns as standard structural framing. Shop fabricated from steel angles, channels and plates, the stock post and corner members are easily connected to windows and wall panels. They also are claimed to simplify formwork when used with concrete construction. Sizes of the square columns range from 3¼″ to 1′-4″ outside dimension and 8′ to 20′ long. Prices vary with current steel market but run about 18¢ per lb. of steel. The concrete core is included at no additional charge for weight.



Architectural historians may find some significance in the proximity of the rectilinear minded manufacturer to the Harvard Graduate School of Design.

Manufacturer: Shlagro Steel Products Corp., Somerville, Mass.

continued on p. 174

LAMSON



vertical conveyors and airtube systems





cut costs, improve service

AT RHODE ISLAND HOSPITAL

Working together as a team, Lamson's Selective Vertical Conveyor and Automatic Airtube® System speed communication of requisitions and other paperwork, central supply room items, laundry packs, drugs, lab. specimens and medical records through the Rhode Island Hospital.

Urgently needed drugs, supplies, linens, etc., are requisitioned 'round the clock without having nurses leave their stations, by means of a 29-station Airtube System. 28 more stations have been provided for to service future additions and remodeled buildings of the hospital.

To assure speedy delivery of these items through 11 floors of the new main building, the Selective Vertical System carries them automatically from central supply areas to the nurses' stations.

Integration of these Lamson systems has allowed Rhode Island Hospital to combat the increased costs of operation without lowering its rigid standards. First of all, the systems allow nurses and their aides to devote their full time and energies to the care of their patients by saving them literally thousands of steps a day. Second, they provide faster service at lower cost than can be performed manually. Third, they establish a "level workload"—a steady and uniform amount of work throughout the day, eliminating peaks and valleys.

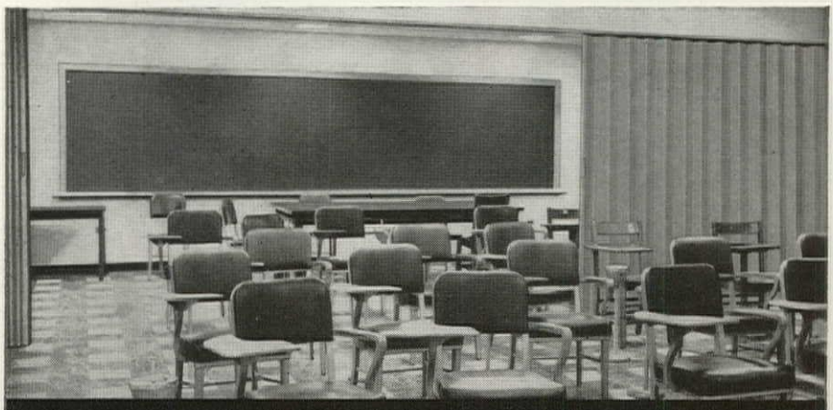
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POWER BUGGY
totes heavy loads up steep ramp

A bantam 1,200 lb. *Scott Crete* dump truck totes 1½ tons of brick, concrete or block around the job site and delivers it where



needed. Driven and unloaded by one man, the *T 52* model has forward and reverse speeds up to 15 mph and can climb inclines as steep as 25%. Drive wheels are situated directly under the load for power, and heavy duty tires are reported to grip any indoor or outdoor surface. A locking brake lever holds the buggy immobile when necessary. For fast and convenient materials handling, Builder Carl Buhr used three



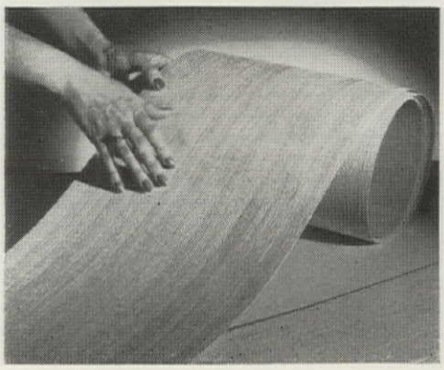
Scott Cretes and a ramp (above) in lieu of an elevator or scaffold and hoist in the construction of a three-story plant in Kearny, N. J. The 14 cu. ft. truck pictured has interchangeable platforms for carrying different loads. It costs about $1,200—or $1 a lb.

Manufacturer: Getman Brothers, South Haven, Mich.

PLASTIC WALL COVERING
is true to itself in its fashion

With deliberation uncommon among plastics fabricators, the makers of *Teraise* wall covering set out to design a texture pattern that would be pleasing, practical and imitative of nothing. While it is impossible to develop anything completely unfamiliar (the product does have a not unattractive resemblance to cigar-box wood), several other fine intentions were met in this material that got its first sizing up in the Monsanto Research Building (AF, June '57). Basically a styrene,

the formula for *Teraise* sheet has been modified to give it resilience and excellent flame resistance. The random strips and slight color variations in the pattern are perfect camouflage for mating length against length of the 1'-wide roll goods. The through-texture of the scrubbable material will not wear off or discolor. Priced in its initial commercial run at 40¢ to 50¢ a sq. ft., *Teraise* wall covering can be mounted horizontally or vertically over any relatively smooth surface. Minor imperfections are absorbed in the pattern. Five neutral tones are standard at present: off-white, tan, gray and gray-green.



Manufacturer: The Hamilton Co., St. Louis, Mo.

PORTABLE YARD RAMP
gives assist to loaded-down docks

During construction work and after, wherever permanent dock facilities are overtaxed or nonexistent, a *Lite Line* magnesium ramp can ease the job of loading materials. Moved into position on its 16″ semipneumatic tired wheels by one man, the 30′ x 5′ or 6′ wide ramp is raised to loading height by a manual hydraulic lift. A locking device prevents it from pulling away during use. The ramp is designed with deep bridge-type girders to keep deflection at a minimum. A safety tread surface assures good traction in all weather. *Lite-Line* ramps are made in four capacities of 3 to 8 tons and sell for $2,260 to $3,285 each. Optional equipment: pneumatic tires, electric hydraulic lift, expanded steel tread surface covering.



Manufacturer: Lite Line Industries Div., Copperloy Corp., Cleveland, Ohio

continued on p. 176



Wisconsin State College, Eau Claire, Wisc.
Architects: Eschweiler & Eschweiler, Milwaukee

These windows are mirrors . . . on the other side!

People in this semidarkened room, can see *through* windows of *Mirropane*® to observe the children in the adjoining room. But from the children's side—in the brighter room—these windows are mirrors. The children see only their own reflections.

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LOF GLASS

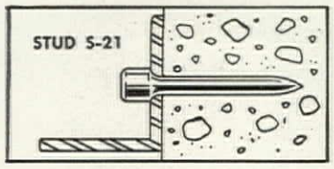
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Recommended Stud for application pictured above—¼" Remington S-21 Stud with 22 caliber Power Load. Stud sets arrow-straight, iron is anchored permanently. Eliminates pre-drilling—no lost time.

Just a squeeze of the trigger anchors structural angle to concrete—without pre-drilling! This cartridge-powered fastening tool sets either ¼" or ⅜" diameter studs in steel or concrete . . . up to 6 per minute, either size. Over 40 Remington Studs to choose from, plus 22 and 32 caliber Power Loads scientifically graded to furnish *exact* power you need. Barrel change-over takes only 90 seconds *right on the job*. Take the tool anywhere, use it anywhere for light, medium or heavy-duty work. Most versatile fastening tool available!

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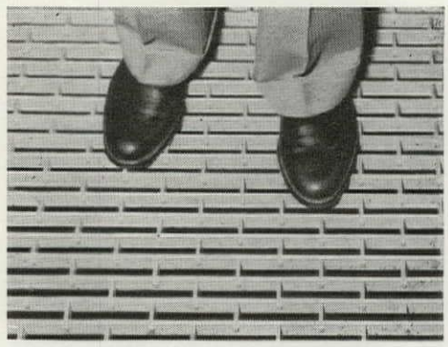
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ALUMINUM GRATING
riveted into rectangular pattern

Regardless of cutouts in any part of Klemp's *RR* grating, the riveted aluminum panel retains its structural rigidity. Built to Navy design specifications on corrosion resistance and strength for shipboard in-

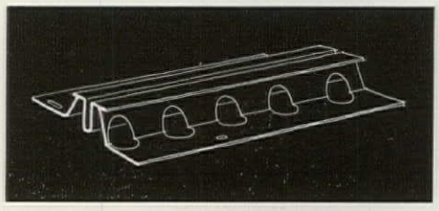


stallation, the *RR* type grid makes a practical cat walk for a chemical plant and is attractive enough to be a protective window guard or space divider in a commercial interior. The simple rectangular openings (79% of total open area) discourage accumulation of dirt, oil or scum. Quantity order prices have not yet been determined.

Manufacturer: Klemp Metal Grating Corp., 6601 South Melvina, Chicago 38, Ill.

METAL JOINT
takes up movement in plaster ceiling

Realizing that movement and deflection are just as much problems in plastered building surfaces as they are in a concrete highway, Powell Steel Products has developed an expansion joint that precracks large ceilings and walls in a logical pattern. The plastering accessory, priced in the range of corner beads—about 7¢ to 9¢ a running foot—should soon be as indispensible to articulation-conscious designers as to cautious contractors. The Powell



joint is supplied in galvanized or stainless steel, zinc or copper in grounds from ½" to ⅞". Staggered perforations lock the plaster body to the joint; the fold-over at top provides a flat ledge for troweling and protects the plaster edge where it is most vulnerable to stress. The manufacturer recommends that the joint be applied every 8' or 12' in canopies and overhangs, large side-wall panels. It should also be useful for bringing together dissimilar materials.

Manufacturer: Powell Steel Products, Industrial Road, Addison, Ill.

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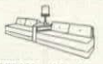


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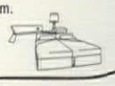


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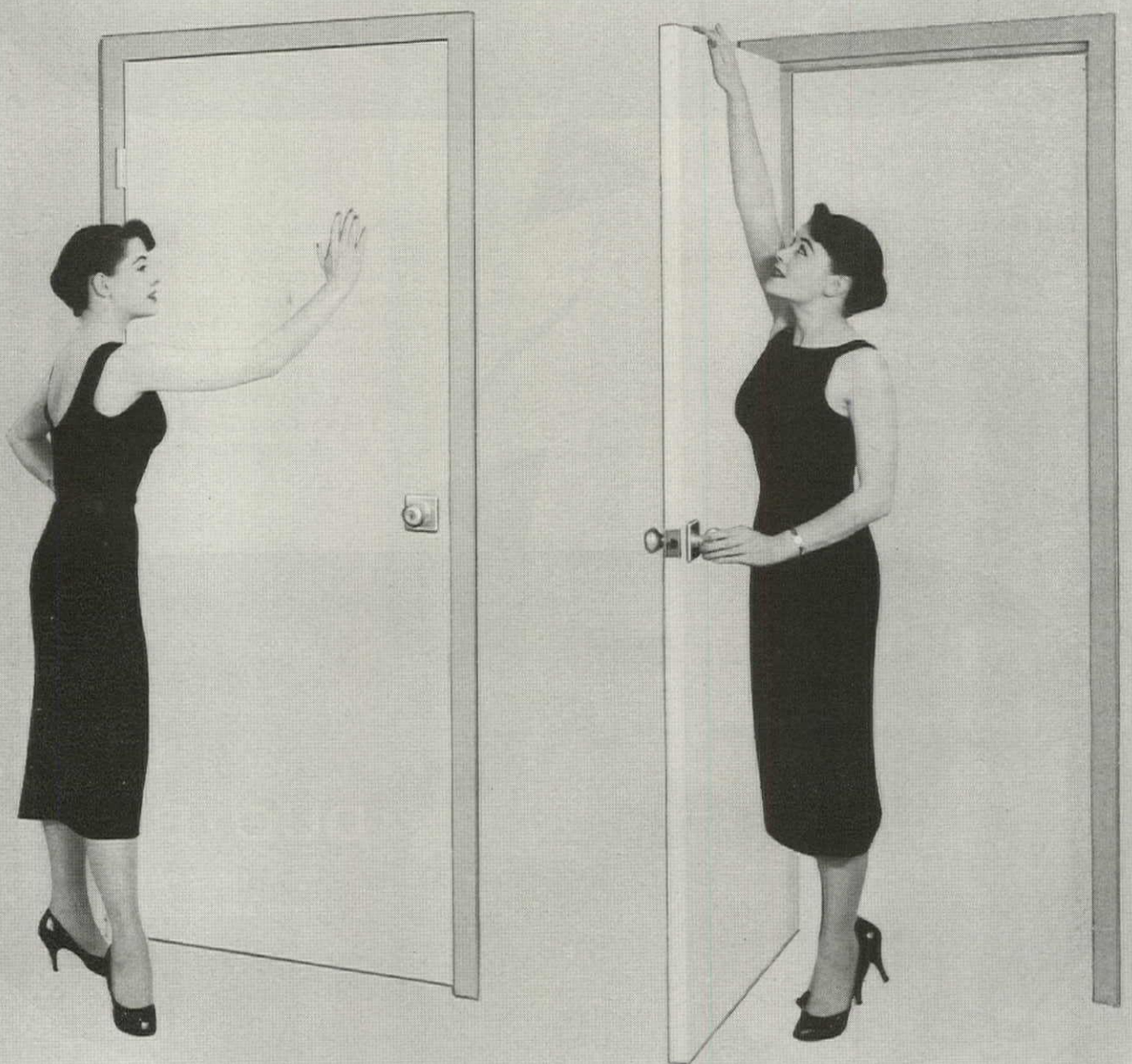
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February 9, 1956

Economy Engineering Company
4511 W. Lake Street
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Re: Economy Engineering Company's window washing equipment for Rich's, Inc.

Gentlemen:

We, at Rich's, have always been very proud of our physical facilities and have made every effort to maintain them by proper scheduling and using the most efficient equipment.

As a result of the excellent service and money saved by the use of the window washing equipment that you furnished to us on our Store for Men installation in Atlanta, we again selected your fine equipment for the use on our new modern downtown shopping community in Knoxville, Tennessee.

This equipment not only has saved us maintenance cost, but has provided a safer means for maintaining these windows. It has enabled us to retain the crystal-like sparkle of the original design that would be impossible without the aid of this equipment.

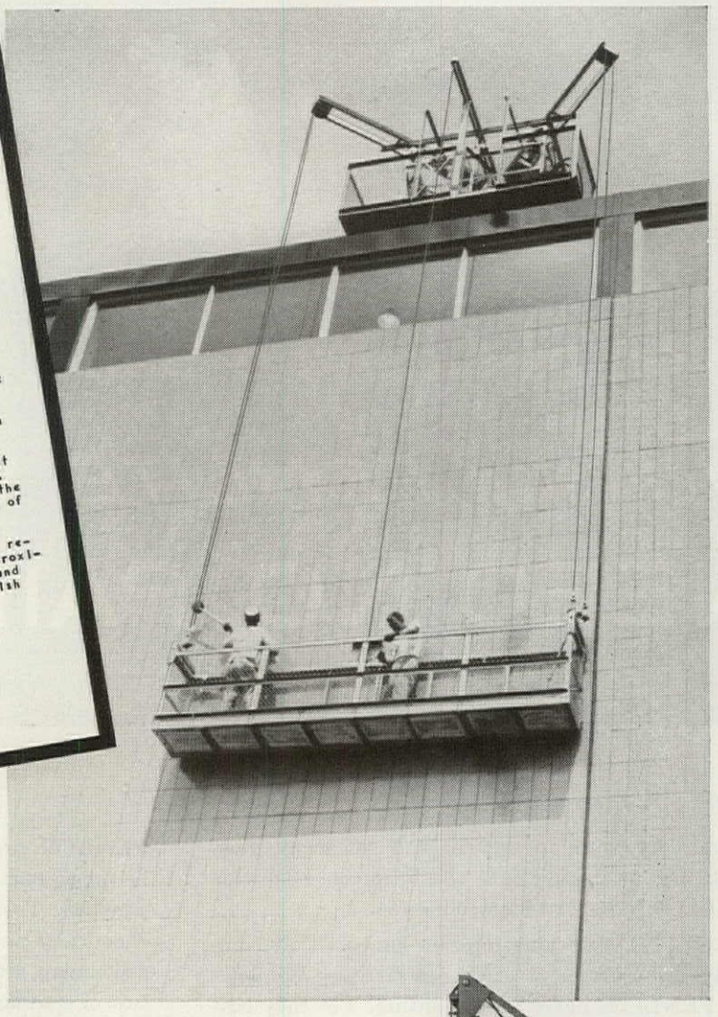
We feel that a very conservative estimate of the savings resulting from these two pieces of equipment would be approximately $5,000.00 per year. Therefore, you can understand why we, once again, selected your equipment to accomplish this difficult task for us.

Very truly yours,

A. M. Ferst

A. M. Ferst
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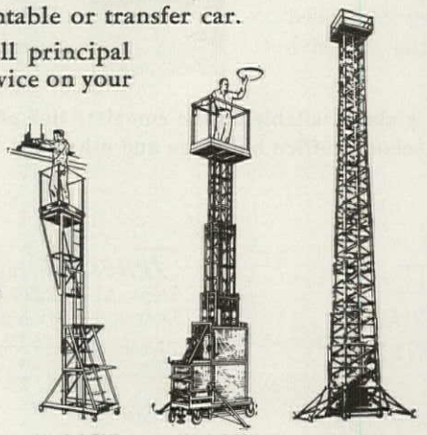
The Wind-O-Washer is electrically operated from the working platform by push button controls for both up and down and horizontal movements. The machine travels on a track, and when not in use, is backed out of sight by means of a turntable or transfer car.

Economy representatives, located in all principal cities, can give personal engineering service on your problems and make recommendations with estimates. Each installation is individually engineered.

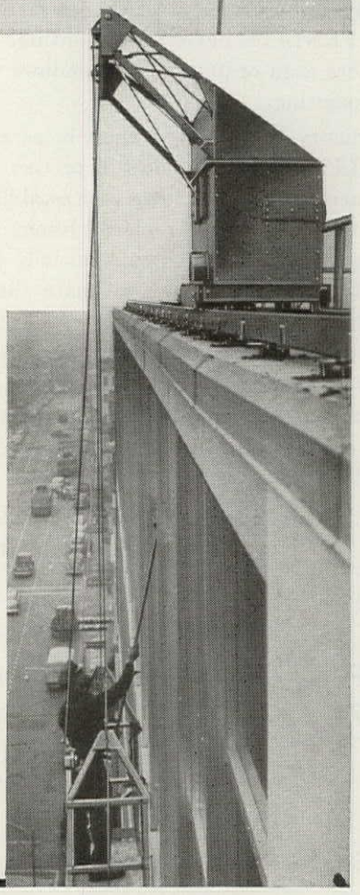
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Books

. . . Schools . . . Structure . . . Gingerbread

PLANNING FOR SCHOOL BUILDINGS. By James D. McConnell. Published by Prentice-Hall, Inc., 70 Fifth Ave., New York 11, N.Y. 348 pp. 6" x 9¼". Illus. $6.95

Of recent "how to" books for would-be school builders (through Junior College) this is perhaps the most informal, direct and to the point. It will be of particular benefit to school boards which have had no prior experience in organizing a building program. For those who have been through the course once or twice before, however, it may appear as a too familiar, too detailed lesson. But they would do well to pay attention.

PLANNING FUNCTIONAL SCHOOL BUILDINGS. By Merle R. Sumpton and Jack L. Landes. Published by Harper & Brothers, 49 E. 33rd St., New York 16, N.Y. 302 pp. 8½" x 11¼". Illus. Professional edition, $7.50; text edition, $5.75 (available on quantity for text use)

No primer, this advanced text may leave the newcomer to the school board somewhat behind. But it will prove invaluable to readers who care to go into the theory as well as the practice of school planning. We can hope that the authors, having made this major contribution to intelligent primary and secondary school organization, may wish to go on to tackle the physical problems of higher education.

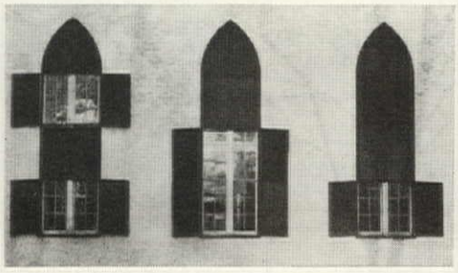
HANDBOOK OF STANDARD STRUCTURAL DETAILS FOR BUILDINGS. By Milo S. Ketchum. Published by Prentice-Hall, Inc., Englewood Cliffs, N.J. 120 pp. 7¼" x 10¼". Illus. $4.65

As a book on structural working drawings and their preparation, this one makes a valuable contribution to the literature of the drafting room. But the technique of setting up a number of sample details in six building types confuses the objective with a content of structural bits and pieces. The author's discussion of the details per se compounds the confusion, as does the title. Working drawings of any kind should basically be clear, logical and complete expressions of design thought. In this, Ketchum's book is not much help.

THE BUILDINGS OF ENGLAND: LONDON. (Vol. I, The Cities of London and Westminster.) By Nikolaus Pevsner. Published by Penguin Books Inc., 3300 Clipper Mill Road, Baltimore 11, Md. 631 pp. 4" x 7". Illus. $3

Dr. Pevsner is going through England, county by county, with a ruthlessness that many outsiders would consider downright unpatriotic. But to Pevsner and his colleagues on the *Architectural Review*, this is the height of patriotism: to criticize the nation's buildings with all the candor and wit that one can command. The present book is the twelfth in the series.

It is worth thinking what would happen to a zealous architectural critic in this country who might try the same sort of thing. Has anything better than tar and feathers been invented?



Gothic surprise: windows of Lutheran Church, Rhinebeck, N.Y.

THE GINGERBREAD AGE: a View of Victorian America. By John Maass. Published by Rinehart & Co., Inc., 232 Madison Ave., New York 16, N. Y. 212 pp. 8¼" x 11¼". Illus. $7.95

Ever since coming to this country in 1941 at the age of 23, John Maass has been an interested and increasingly well-educated observer of the American visual scene. His education (though it has reached the point where he is himself now an instructor at the Philadelphia Museum School of Art) has never been permitted to interfere with his observations. He never learned the basic lesson of American art-architectural history: that one doesn't mention that embarrassing period between Late Greek Revival and Early Modern.

Because of this educational block, Maass has produced an extravaganza of nineteenth-century invention and surprise. Romping through the gaudy fields of Victorian "taste," he makes no serious effort to organize things historically or geographically. Affronted modernists will be pleased to note that the author's exuberance often interferes with his pictorial judgment.

CONVERSATIONS WITH ARTISTS. By Selden Rodman. Foreword by Alexander Eliot. Published by Devin-Adair Co., 23 E. 26th St., New York 10, N.Y. 234 pp. 5½" x 8¼" Illus. $4

Although this collection of conversations with 35 American artists reads like an in-

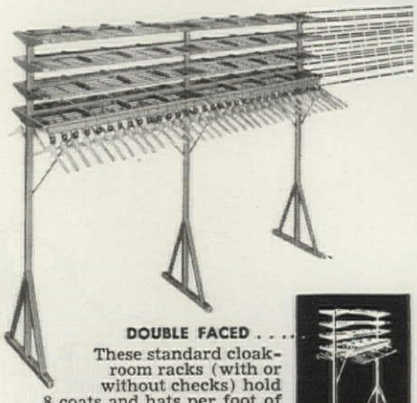
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Checker® COAT and HAT RACKS

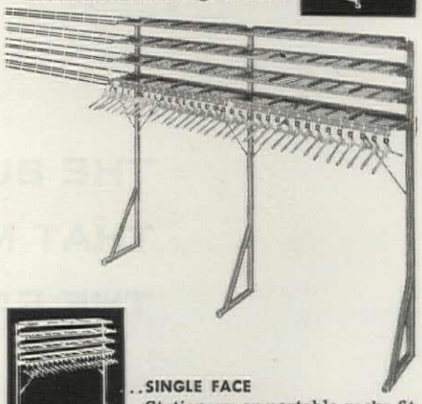




. . . WALL RACKS
Basic 2' 2", 3' 2", 4' 2" and 5' 2" units mount directly on wall. Interlocking add-on sections make racks of longer lengths and greater capacity.

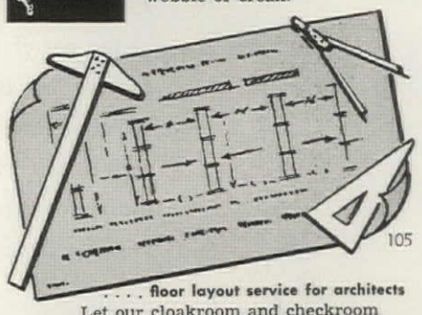


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terminable cocktail party, it may be considered fit subject matter by many non-party-goers in the near future.

For Selden Rodman, author of the controversial *The Eye of Man: Form and Content in Western Painting*, has recently been advancing the thesis that art should have a good deal to do with human experience, be more than an effect. In his latest book his thesis is tried out on the Americans who are supposed to be doing what is going to be done to our visual landscape for the coming generation. And the conclusion is that enough of them agree, and are willing to get involved with the concerns of people, to allow us to be optimistic. That is, there's room to hope that the interrelationships between art and design, design and living, will become more noticeable in the things around us.

This conclusion and the routes to it occasionally get lost in the woods of Rodman's many side interests. And sometimes it seems that he's more willing to discuss the personal eccentricities of artists with *other* artists (e.g., Wright with Johnson, and Johnson with Wright) than he is to pursue anything really worth-while. But none of the conversations is dull, and enough of them repeat the theme of artistic responsibility to be worth overhearing.

If only for the description of the night the author spent in Philip Johnson's New Canaan guest house, the book makes good going-to-the-convention reading.



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BOOKS RECEIVED

BASIC REINFORCED CONCRETE DESIGN: Elastic & Creep. Second Edition. By George E. Large. Published by The Ronald Press Co., 15 E. 26th St., New York 10, N. Y. 527 pp. 6¼" x 9¼". Illus. $7.

HOW TO PROFIT BY REHABILITATING REAL ESTATE. By Mary Warren Geer. Published by Prentice-Hall, Inc., 70 Fifth Ave., New York 11, N. Y. 207 pp. 6" x 9¼". $5.65

SHOPPING CENTERS RE-STUDIED. Part Two—Practical Experiences. Technical Bulletin No. 30. Published by the Urban Land Institute, 1200 18th St., N. W., Washington 6, D. C. 166 pp. 8½" x 11". Illus. $5

THE ARCHITECTURE OF SCOTTISH POST-REFORMATION CHURCHES 1560-1843. By George Hay. Published by Oxford University Press, 114 Fifth Ave., New York 11, N. Y. 299 pp. plus illustrations. 6¼" x 10". About $8.50

TECHNICAL PUBLICATIONS

A selection of new handbooks, textbooks, technical reports, brochures and commercial leaflets, noteworthy for their information content or pictorial format or both

NOISE CONTROL PRODUCTS. Published by Owens-Corning Fiberglas Corp., Pittsburgh, Pa. 8 pp. Illus.

Comprehensive, well-designed catalogue, including selection guide, characteristics, fire ratings and relative cost data of materials.

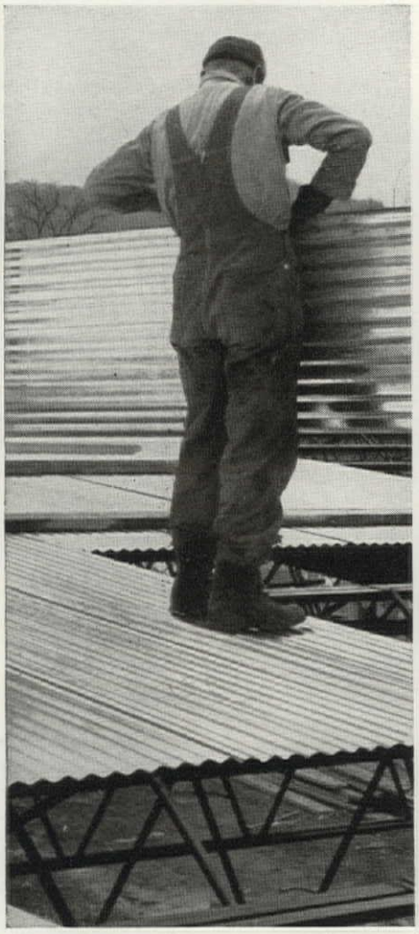
ARCHITECTURAL WOODWORK: Brochure Portfolio. Published by Architectural Woodwork Institute, 332 Michigan Ave., Chicago, Ill. 28 pp. Illus.

A continuing guide to the architectural uses of wood, prepared under architectural supervision, with many design details.

WOOD STRUCTURAL DESIGN DATA: Vol. 1. Published by National Lumber Mfgs. Assn., Seattle, Wash. 58 pp. Illus.

Comprehensive handbook covering the design of typical wood structural members, glulam timbers, columns, trusses.

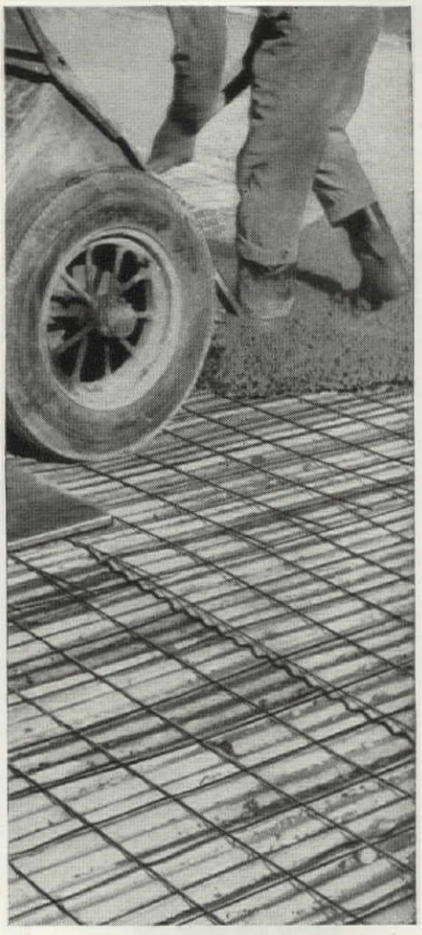
continued on p. 186



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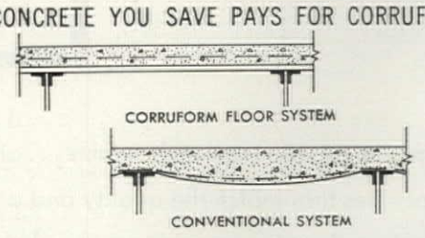


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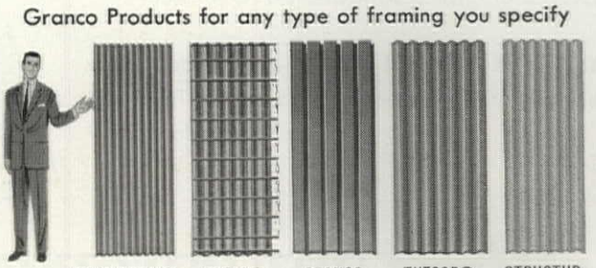
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REINFORCED CONCRETE FLOOR SYSTEM. Published by the Portland Cement Assn., Chicago, Ill. 24 pp. Illus.

A well-illustrated analysis of various types of concrete floor systems and their economical advantages, with many diagrams of typical systems.

METAL LATH: Specifications for Metal Lathing and Furring. Published by the Metal Lath Mfgs. Assn., Cleveland 14, Ohio. 28 pp. Illus.

An excellent specification guide with index for ready reference, fire-resistive ratings for various constructions, details showing applications.

FIR PLYWOOD CONSTRUCTION GUIDE. Published by Douglas Fir Plywood Assn., Tacoma, Wash. 64 pp. Illus.

Well-arranged and informative handbook on various types, grades and applications of fir plywood, with selection data and details of recommended installation methods and procedures.

ALLOYS AND MILL PRODUCTS. Published by Aluminum Co. of America, Pittsburgh, Pa. 16 pp. Illus.

A concise and comprehensive catalogue, well arranged for easy reference, of this company's full range of aluminum alloys and their uses.

TRUSCON METAL CURTAIN WALL CONSTRUCTION. Published by Truscon Steel Div., Republic Steel Corp., Youngstown 1, Ohio. 32 pp. Illus.

This catalogue illustrates in detail, with design data, seven types of curtain wall adapted to monumental, commercial, school, hospital and industrial buildings.

PITTSBURGH DOORWAYS. Published by Pittsburgh Plate Glass Co., Pittsburgh, Pa. 4 pp. Illus.

Catalogue clearly illustrating this company's line of glass door panels and accessories, with detail drawings.

FACTS & DATA ON RESILIENT FLOORS. Published by Congoleum-Nairn Inc., Kearny, N.J. 42 pp. Illus.

Comprehensive catalogue and guide in color to resilient floor materials, with comparative tables of characteristics, relative costs, other factors.

INDUSTRIAL INSULATION MANUAL. Published by Owens-Corning Fiberglas Corp., Pittsburgh, Pa. 36 pp. Illus.

Unusually complete, well-arranged manual and guide to a range of industrial insulation meeting various requirements.

CECO SHORTSPAN OPEN-WEB STEEL JOISTS. Published by Ceco Steel Products Corp., 5601 W. 26th St., Chicago 50, Ill. 4 pp. Illus.

A neat catalogue which shows in tabular form design data, properties, dimensions and recommended specifications for this steel product.

BRICK SIZE VENTS IN CAST ALUMINUM. Published by Construction Specialties, Inc., Cranford, N.J. 6 pp. Illus.

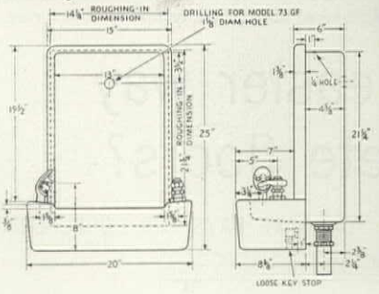
Concise presentation of a line of wall vents built to fit the brick module, showing installation details.

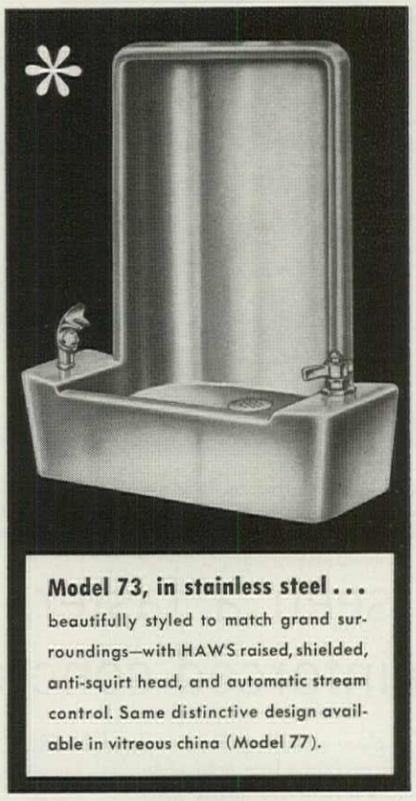
FLOUR CITY METAL WINDOWS. Published by Flour City Ornamental Iron Co., 2637 27th Ave., S., Minneapolis, Minn. 32 pp. Illus.

Modern design in a large selection of window types in aluminum, nickel, silver, bronze and stainless steel shown in a handsome, well-arranged catalogue.

NOTE: All the above catalogues, handbooks and brochures are Certificate of Merit winners in the 1957 Building Products Literature Competition sponsored by the AIA and the Producers' Council.

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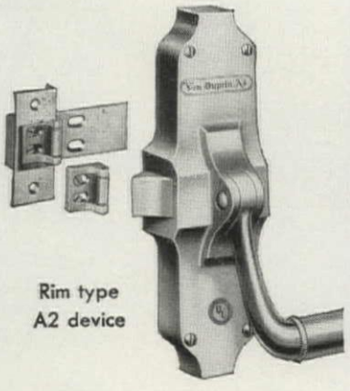
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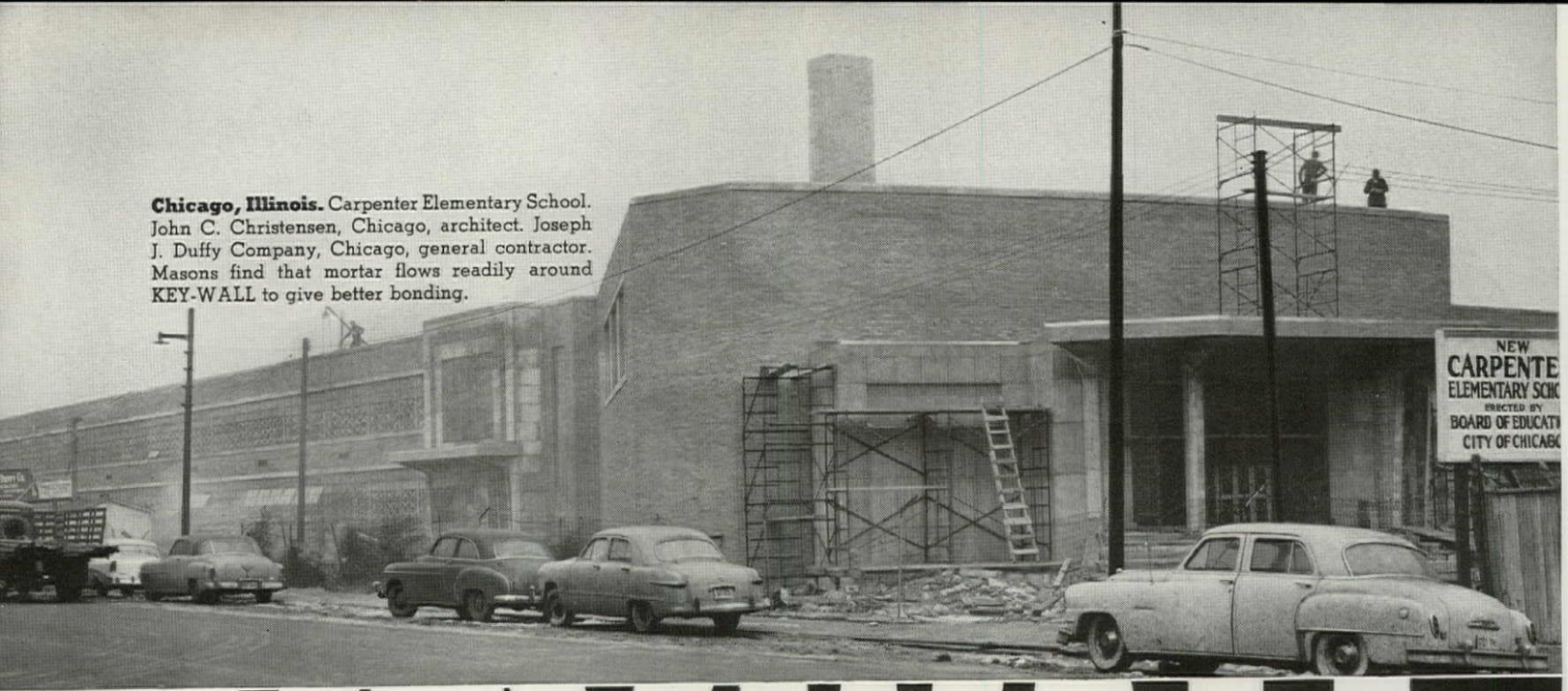


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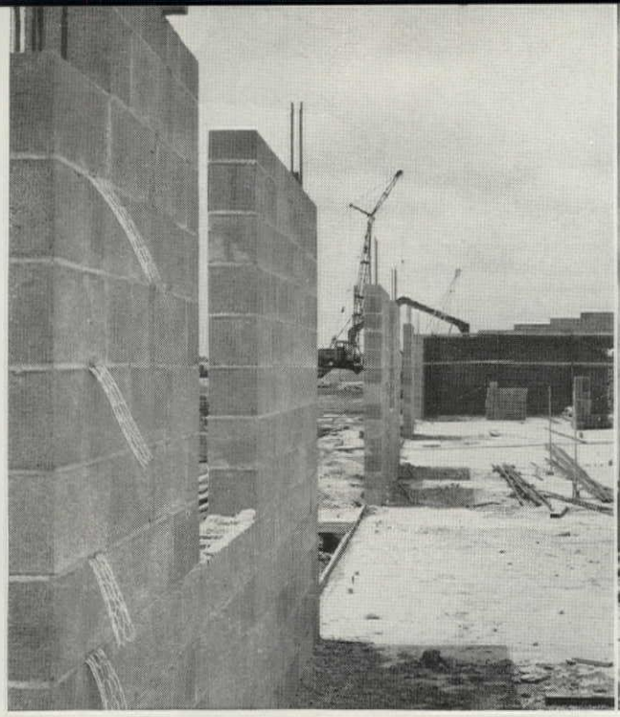
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Chicago, Illinois. Carpenter Elementary School. John C. Christensen, Chicago, architect. Joseph J. Duffy Company, Chicago, general contractor. Masons find that mortar flows readily around KEY-WALL to give better bonding.

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Waco, Texas. Lake Air Jr. High School. Spicer-Bush & Witt, Waco, architects. Jones & Williams, Waco, general contractor. W. W. Shaw, Waco, masonry contractor. KEY-WALL was specified for all masonry reinforcement on this job.

is adding strength to buildings everywhere

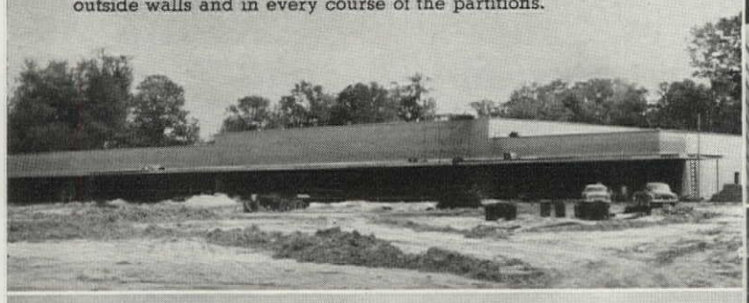
Revolutionary new type of masonry reinforcement gains wide acceptance from architects, builders and owners.

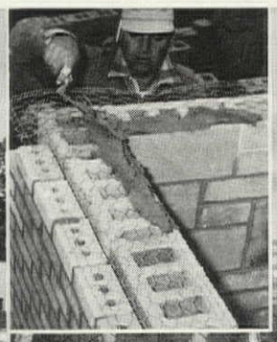
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Baton Rouge, Louisiana. Broadmoor Village Shopping Center. Richard C. Coney, Jackson, Miss., architect. Howie Construction Company, Jackson, general contractor. A. L. Falls, Jackson, masonry contractor. KEY-WALL is being used in every other course in the outside walls and in every course of the partitions.





Bellevue, Nebraska. St. Mary's Catholic Church. Willis Regier, Omaha, architect. Korshoj Construction Company, Inc., Blair, general contractor. Masonry superintendent, Leonard Rieple, likes the way KEY-WALL is easily lapped to tie brick facing to the concrete masonry.

Peoria, Illinois. First Baptist Church. Harold E. Wagoner, Philadelphia, architect. Jamieson & Harrison, Peoria, associate architects. C. Iber & Sons, Peoria, general contractor. One of a number of churches designed by Mr. Wagoner on which he has specified KEY-WALL.



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Lionel G. Gale, Boston, Mass.
ELECTRICAL CONTRACTOR:
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Excerpts

What other people are saying

Memories of the May AIA Centennial Convention in Washington are still potent. Before they lose their force, some of the words delivered there should be given more permanent form. Herewith, then, excerpts from convention speeches, commencing with a portion of AIA President Leon Chatelain's opening address

President Chatelain:

Today we are concerned deeply about the building needs of our nation—and of the world—during the next century and the centuries to follow. We are concerned lest the building urge that has gripped the peoples of this planet run wild, lest whole populations build themselves into an environmental prison from which there is no escape short of total demolition. Just now, as we move into our second century, the environmental situation is in the balance; we alternate between despair that the environment forever under construction is becoming the master of man, and satisfaction that we are materially helping man in his effort to bend the earth's climate and materials to his purpose.

Carl Feiss, *planning and urban renewal consultant:*

But what a monstrosity is this urban place we have built! Is this the architecture of the future? It certainly is not that of the honored past. It obviously is the architecture of the present. There isn't much worth keeping for the future when we get right down to it. What is this smoky torch we pass on to the next generation? And these great structures, wrapped in Christmas papers of stone, metal and glass, stuck like glistening darts thrown into a swamp by a blind man, are these our only and best architecture? Is this all there is to architecture? Or do we now rebuild our cities and build new ones in which the totality of building is the architecture of the future—a useful, beautiful and worthy architecture fit to house the world's finest democracy?

So let us here and now mark the termination of the 100 primitive years of American architecture!

Lillian Gish, *actress:*

You architects remind me of my family, who believe a lady should have her name in the public print just three times—when she is born, when she is married and when she dies. In my lifetime I have heard of only two architects: Frank Lloyd Wright, God bless him for what he has done to make even the word "architecture" known to us; and the other is a memory of my childhood, Stanford White who got shot.

Senator Joseph S. Clark, *Democrat, Pennsylvania:*

To use our higher levels of government as we should in the solution of urban problems, two political reforms are required:

1. We must bring the state legislatures up to date, so that the tail of the rural counties stops wagging the dog of our huge urban populations.

2. We must reorient a federal government superbly equipped to deal with the nineteenth-century problems of agriculture and natural resources, and hardly equipped at all to deal with the urban society which today it largely represents.

A federal government which does not pay as much attention to urbiculture as to agriculture, to the conservation of cities as to soil, to the movement of people and goods within as well as between cities is not adapted to twentieth-century America. One immediate step that I am proposing is the creation of a Department of Urban Affairs with cabinet status, in which will be placed such programs as housing, urban renewal, community facilities and probably civil defense—those functions where the federal government is dealing most directly and exclusively with urban concerns. You who are assembled here today will have a decisive influence in determining how well the desire for urban culture will be met.

Emerson P. Schmidt, *director of economic research of the US Chamber of Commerce:*

It is significant that the bulk of the instability in housing starts has been in the FHA, VA and public housing sectors, while the starts in conventionally financed houses have been much more regular in the past decade. Yet, many of our citizens, including some architects, seem to be incapable of learning that when we invite government into our profession or enterprises, we invite instability, not stability, uncertainty and not certainty, chaos and not order.

In England, where government has assumed an even larger role in all types of construction, the architectural profession has been largely socialized just as the medical profession. By taking the short-run view, rather than the long, we, too, are inviting socialization of ourselves.

continued on p. 192



1,000 car, 2-level hotel parking area. Architect: Welton Becket & Associates.

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Dr. George H. T. Kimble, *director of the Twentieth Century Fund Survey of Tropical Africa:*

It is we Westerners who are the wasters, who strip the earth of its forest mantle for the making of books that nobody should read, who with our drills and bulldozers perform miracles of surgery on its womb only to render it barren, and who tear up a thousand-year-old sod for a crop of wheat that must be burned for want of a buyer.

In the closely settled parts of western Europe where the standard of living is high and farming efficiency is the highest in the world, we find that about one acre of land is needed to support one human being. If we could apply this one-to-one ratio to the whole world, it would mean that, at the very least, two and one-half billion acres would be needed solely for raising food at the present time. The actual figure needed is of course very much higher since very few parts of the world, including the US, come up to the standard of farming efficiency of western Europe. How much higher nobody knows for sure, but according to the best guess of our Foreign Operations Administration experts it is certainly over 8 billion acres, or approximately three acres per person. By the end of the century, barring plagues and other calamities, and the adoption of as yet unimagined technological devices that would make it possible for man to live mushroom fashion above his plowed fields and pastures, this per-capita allowance of land for food raising will have declined, and probably be nearer one and one-half acres than two acres. By 2050 A.D.—the end of your "beckoning century"—it will be nearer one than one-half. As little as a 1% increase will give us a population of four and one-third billions by 2000 A.D. At the same modest 1% increase, the population of the world will have increased to approximately 7 billion by 2050 A.D.

From which it seems likely that, a century from now, the average per-capita amount of space available for the putting up of houses *where they are needed,* and all the utilities and services that go with them, will not be more than one-half acre and may very well be less.

If the steel consumption of the whole world were to be on a par with that in the US, the known iron ore resources would be exhausted in less than 20 years. If the same were to happen to the copper consumption the known copper resources would not last beyond 1961-62. True, we shall discover some more iron ore and some more copper, but in doing so, we shall be leaving that much less for our children, and children's children, to discover. And so we go on needing more (or should I say wanting more?) and wheedling more out of the Grand Old Lady's store cupboard. Instead it is high time we inured ourselves to the idea of living with a little less for the purpose of enabling those in other continents, and those who come after us in our own, to live with a little more.

Pietro Belluschi, *dean of architecture at M.I.T.:*

Architecture for thousands of years has been man's faithful expression of his search for fulfillment—fulfillment of the unchanging self in a changing world. From his early struggle against the hazards and diffuseness of nature in the raw to the more recent efforts against the dehumanizing perils of technology, the individual has never failed to search instinctively for the best means to assert himself and his humanity.

Through many agonizing reappraisals, the modern architect is slowly becoming a vastly different kind of man from the one whose image we have so long held.

continued on p. 194

An institution laundry planning service for architects

Planning laundries is our business, so why burden your organization with costly, time-consuming detail work. Given a few key facts, our survey engineers will provide a detailed plan to integrate laundry facilities with the other important elements of your institution design. The American Laundry Machinery Company is uniquely qualified to offer architects a comprehensive laundry planning service for institutions of all types and sizes.

Information we need includes: Number of beds, number of patients or inmates, type of institution (orphange, home for aged, convent, seminary, sanitarium, penal, etc.), number of uniforms and types, whether medical care is provided, whether equipment will be operated by patients or salaried employees, whether laundry equipment will be used for occupational therapy or training.

We provide the following: Our survey engineers will prepare detailed drawings, floor plan layouts and complete specifications for your installation. Finished plans include size and type of laundry equipment needed, proper arrangement for smooth work flow, operating personnel required, water and steam requirements including size of piping, electrical connections, ventilation, lighting, foundation support, floor space, size of openings for admittance of equipment, approximate operating cost—every detail you will need to design an efficient space-saving laundry department. This planning service is available to architects without obligation. Call your nearby American representative, or write.



Central Baptist Home for the Aged, Chicago, Illinois.
Architect: Robert C. Swanson.
General Contractor: Algot B. Larson.
Laundry Equipment: The American Laundry Machinery Company.



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work progresses faster...
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REINFORCED CONCRETE

Lower over-all costs, flexibility of design, and faster work progress are cited by associated architects, Canizaro and Overstreet, as major factors in their choice of reinforced concrete for the new First National Bank Building in Jackson, Mississippi.

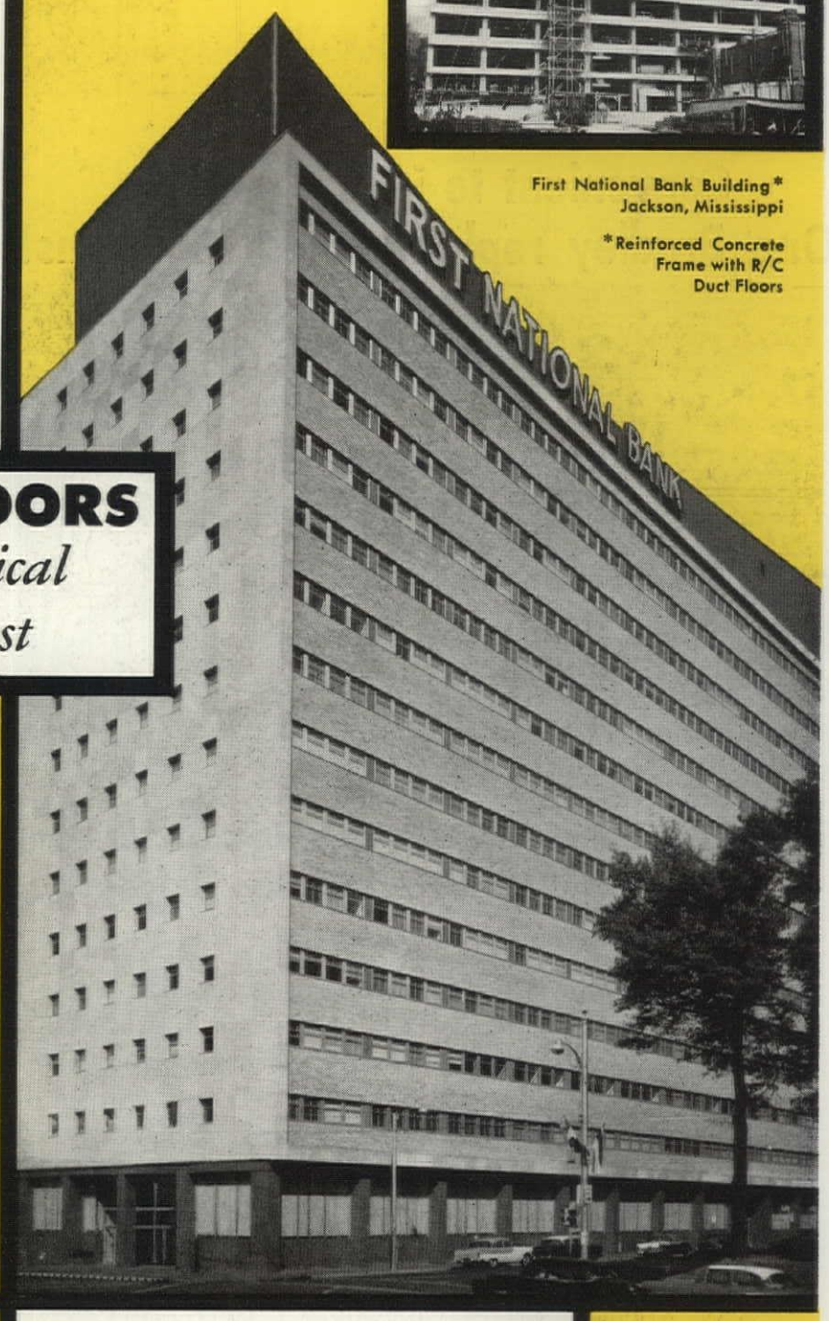
On many other important buildings from coast to coast, reinforced concrete is also providing better structures for less money. It is a flexible medium, inherently firesafe, and highly resistant to wind, shock, and quake. Furthermore, reinforced concrete buildings progress faster because all necessary materials and labor are readily available from local sources.

James T. Canizaro and N. W. Overstreet, Jackson, Mississippi — Associated Architects

Post & Witty, Jackson, Mississippi — Structural Engineers

Southeastern Construction Co., Charlotte, North Carolina — Contractor



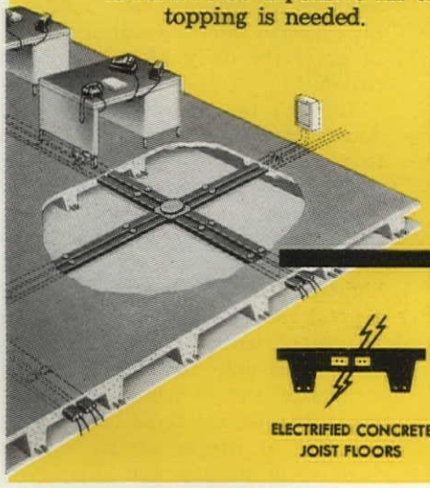


First National Bank Building*
Jackson, Mississippi

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provide 100% electrical flexibility at low cost

R/C Duct Floors provide a complete network of underfloor electrical outlets for power, light, telephone, and intercom systems—at a new low cost. Additional outlets can be connected to convenient risers in minutes. There is no ripping up or drilling through floors and ducts. R/C Duct Floors, which meet all building code requirements, consist of *standard* steel electrical distribution ducts set in the *structural* slab of reinforced concrete floors . . . no expensive fill or topping is needed.



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He is more open minded, more able to work with others; less encumbered by preconceived ideas of what a form should be, less self-conscious about being tasteful and more likely moved to do what is feasible, and significant. He is placing less emphasis on cleverness, on style, on novelty, and more on good performance and appropriateness to purpose—two virtues which do not exclude joy, and the happy feeling which all good things give to human beings. In this respect we may say that he has now learned to think of style not as a dispirited imitation of external forms, old or new, but in the sense so well expressed by Whitehead when he wrote:

"Style in an esthetic sense is based on admiration for the direct attainment of a foreseen end, simply and without waste. In art, in literature, in science, in logic, in practical execution, style has fundamentally the same esthetic qualities, namely: *attainment and restraint.* It is the last acquirement of the educated mind; it is also the most useful; it pervades the whole being.

"The administrator with a sense for style hates waste; the engineer with a sense of style economizes his material; the artisan prefers good work.

"Style is the fashioning and restraining of power. But style is always the product of specialist study, the peculiar contribution of specialism to culture."

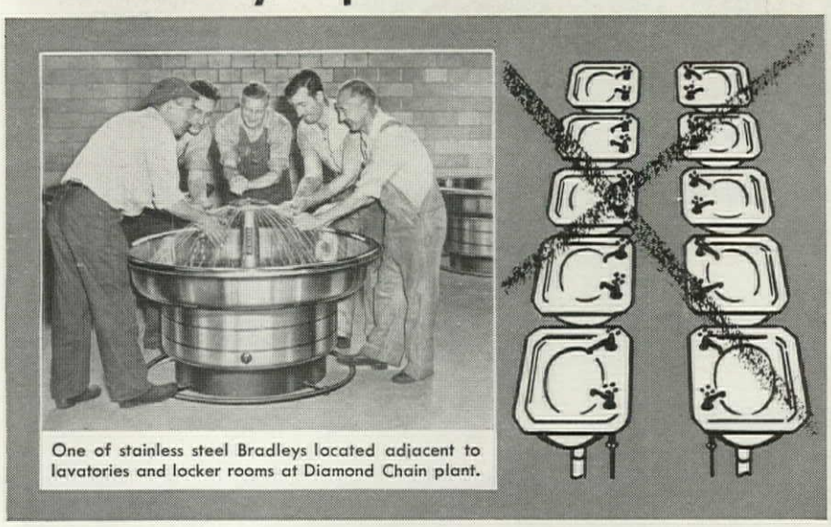
There is no question that the competence of the architect as a professional specialist is steadily improving. His prestige will be further enhanced when he will not think of himself merely as a maker of Beauty but rather a serious interpreter who aims to convince as much as to please. The duality of the professional man as an artist and as a technician is a modern phenomenon caused by the fact that Art has become synonomous with the making of pretty images, in many instances divorced from life, later to be embalmed in museums. Our society has forced the artist to take a holiday from life and to climb his stairs to the ivory tower, but great art is needed more with us in the streets than in museums and the great artist will emerge without preciousness when he is able to add significance to conviction.

There is no question about the dismal aspect of our cities and suburbs, but it will not be relieved by the cosmetic approach of applied Beauty as advocated by some professional humanists. It will be remedied by a greater awareness on the part of all of us of the meaning of the forces which motivate our society and the understanding the average person has of the role that total environment plays in his life and by the courageous applications of many educated and specialized minds to the coordinated solution of its planning.

We have observed that when certain slums were taken down, much of the pulse of life was taken away with them. The wise designer will not let his sense of order be an esthetic void unfilled by the little human interests and activities which so grace the daily life of the individual citizen.

Through the economic realities of the American system, architects are learning to make a virtue of what used to be a handicap. A greater concern for economy means now a wider distribution and therefore greater social impact. This may have been done at the expense of the highest standards, but it has resulted in a great raising of the lowest standards, in a greater sense of what is appropriate and important, in a greater logic of structures and in more thoughtful planning. And beyond these is an obvious acceptance of life in all its richness and variety, in its joy and complexity, and with it a feeling of duty to meet a challenge.

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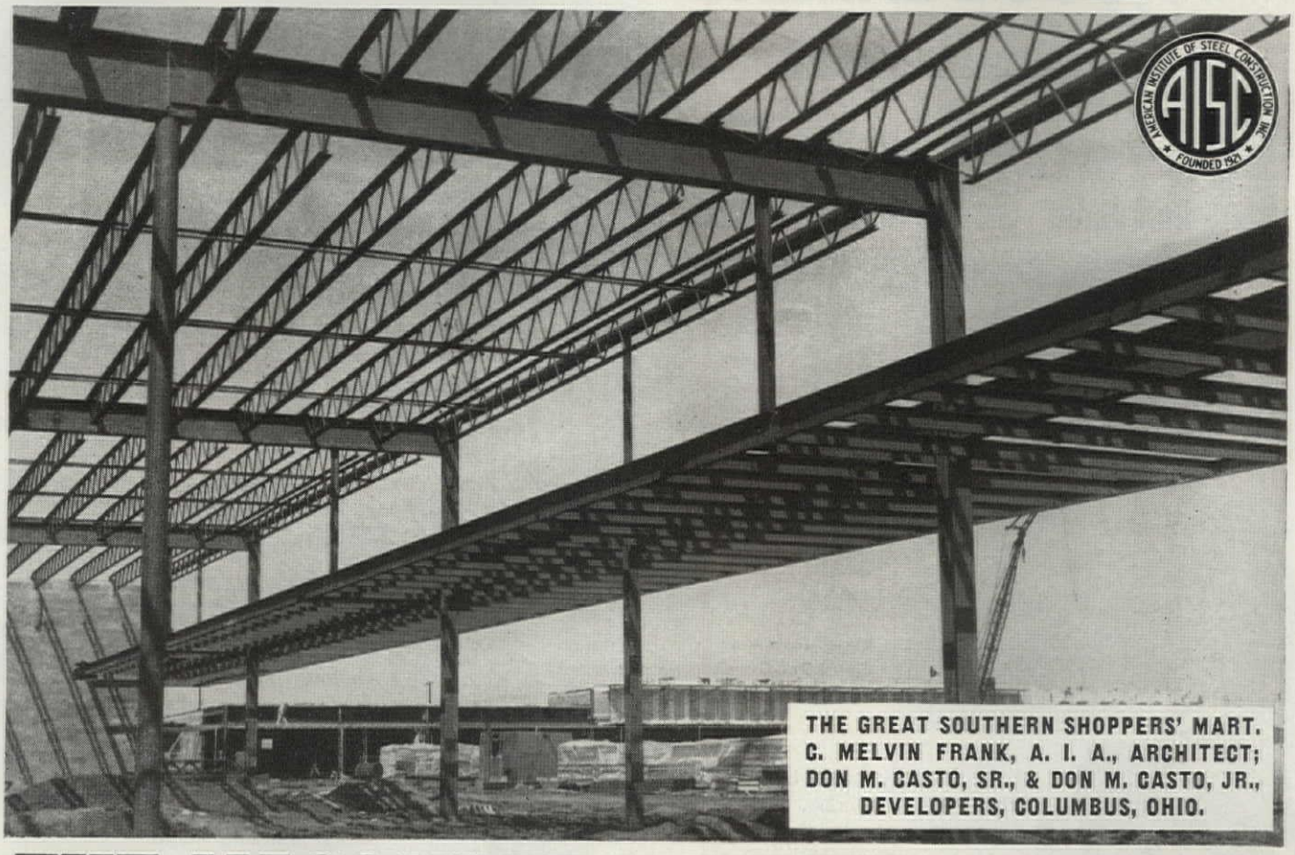
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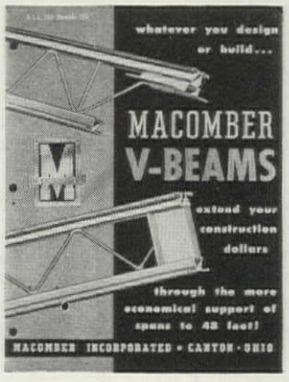
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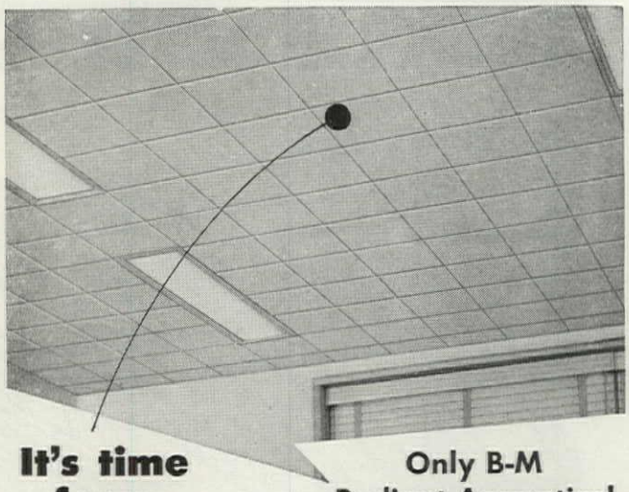
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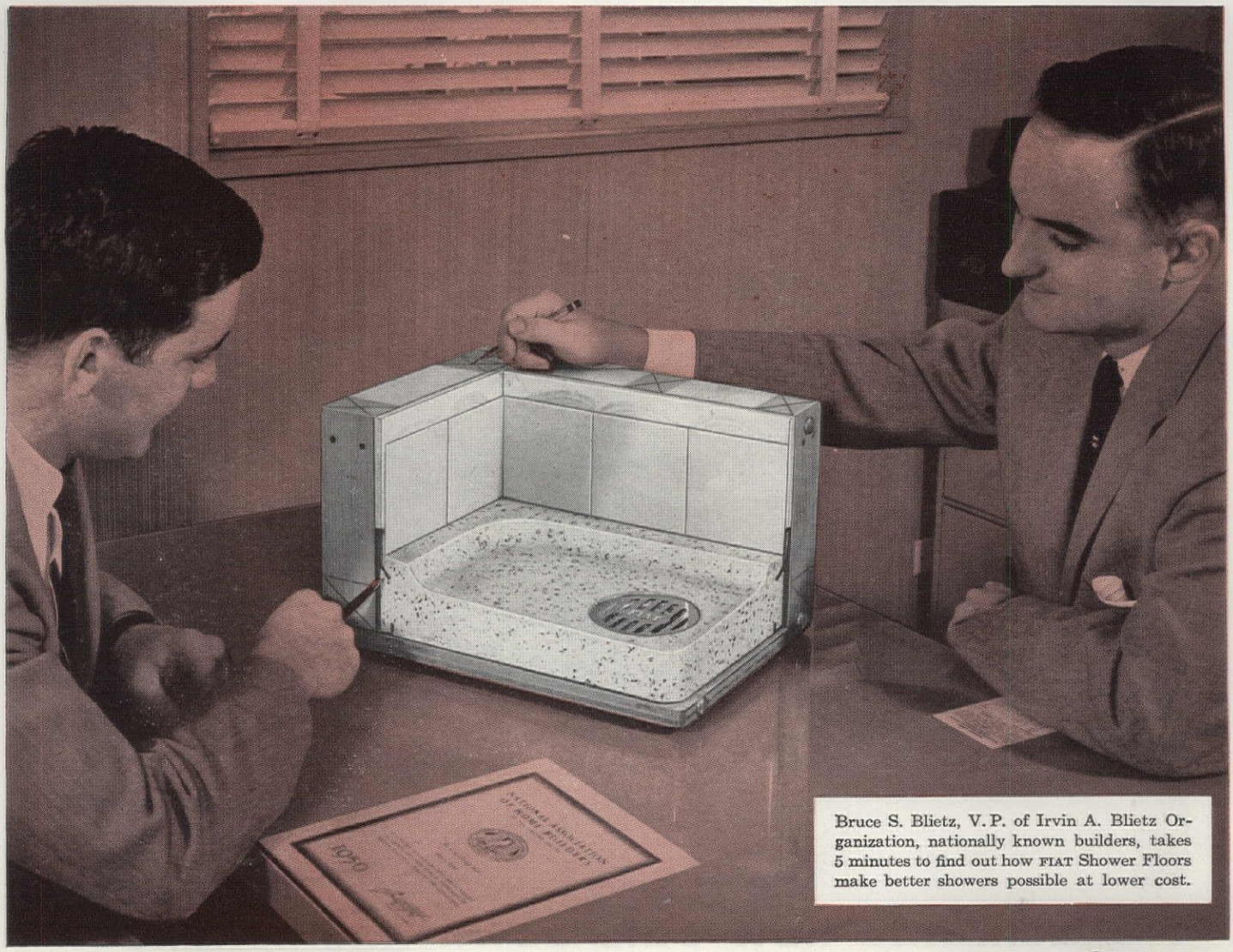
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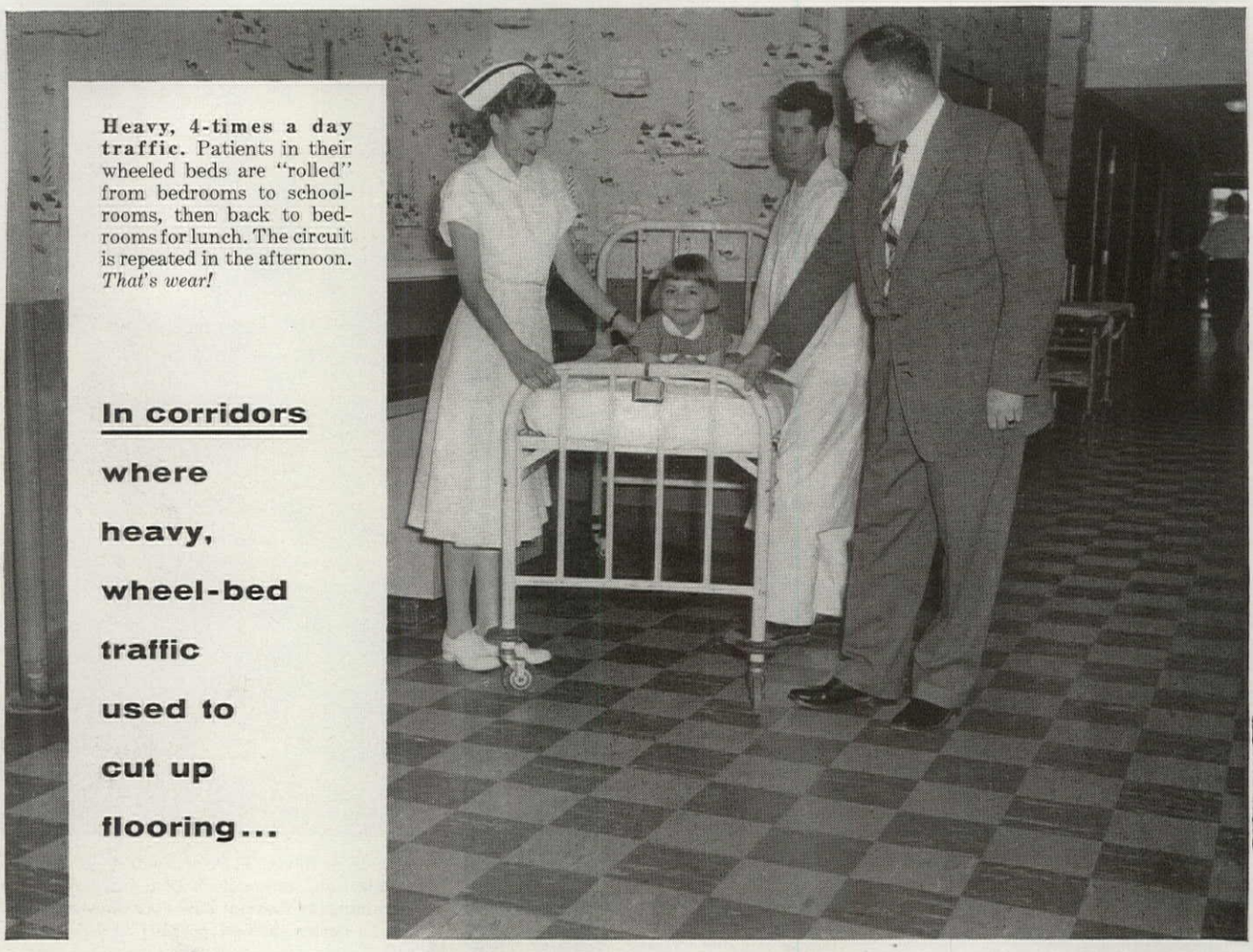
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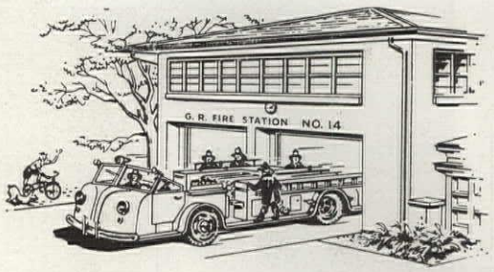
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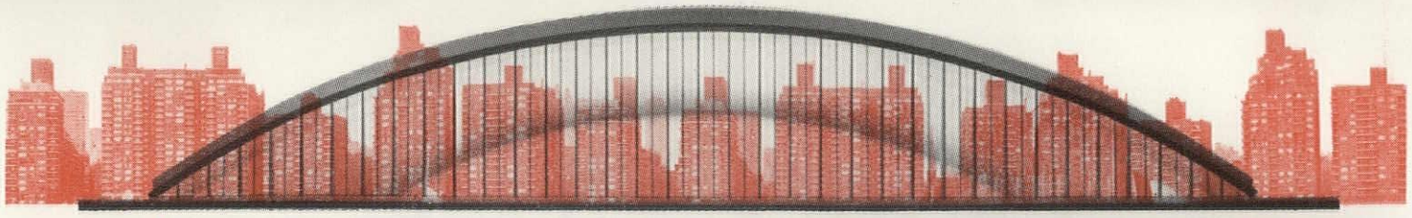
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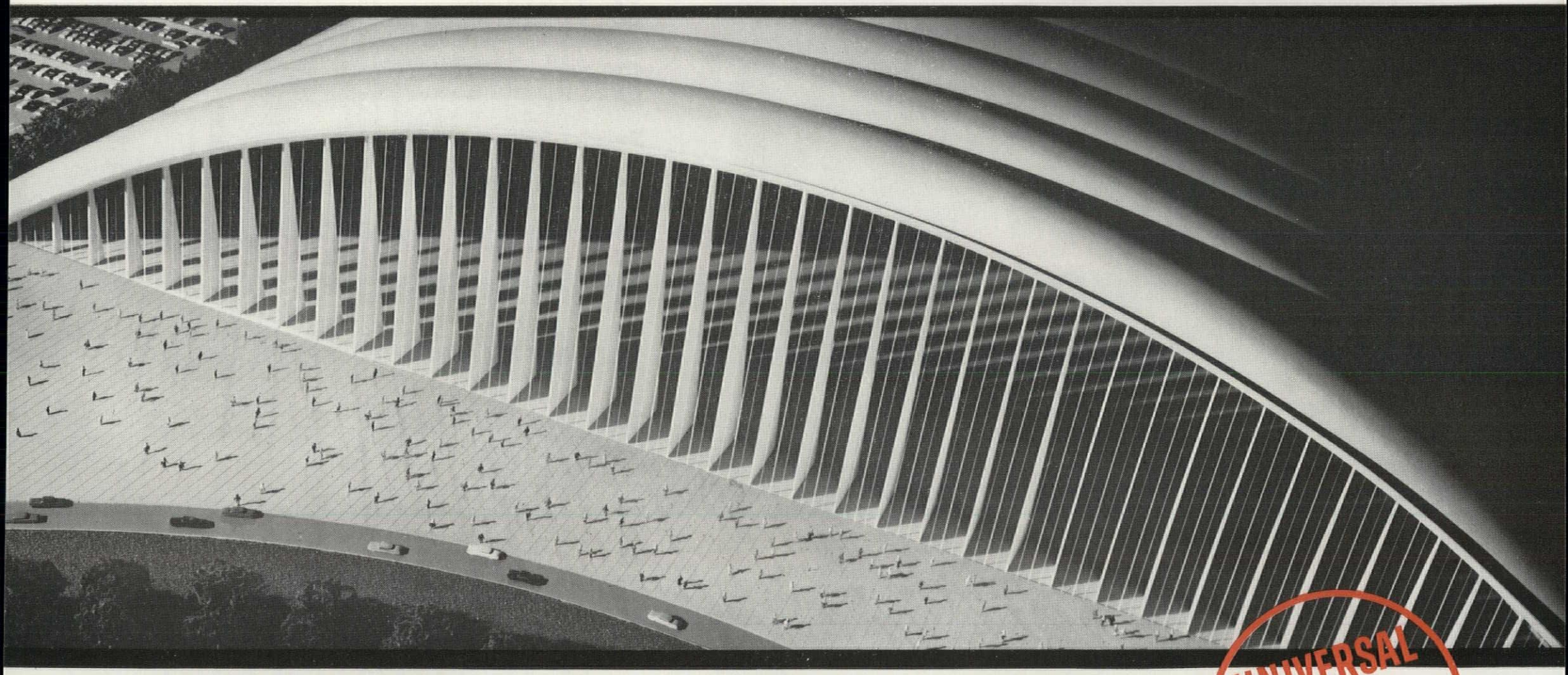
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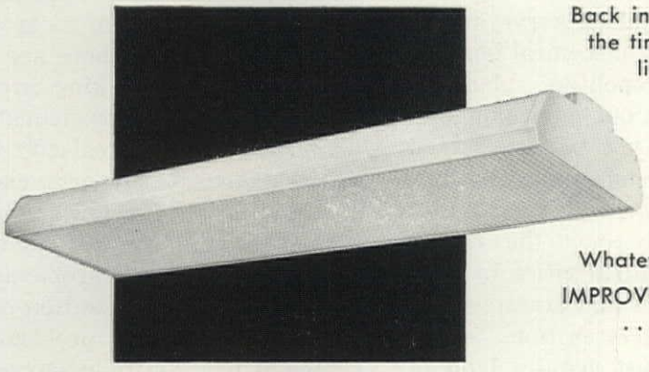
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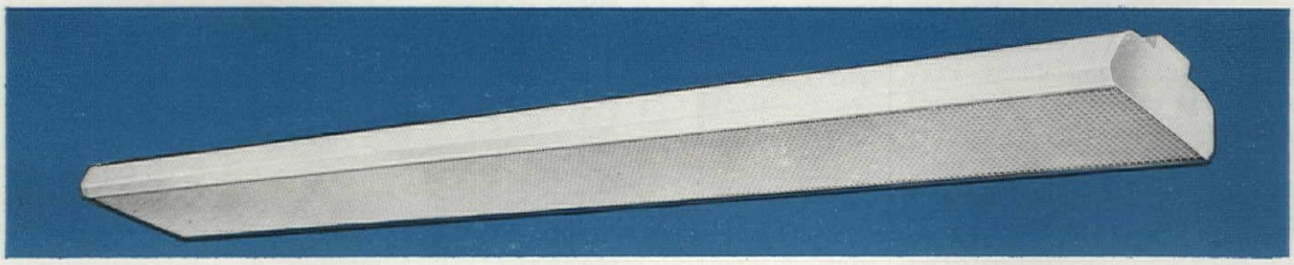
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it or not, for us simply to provide for urban growth and replacement we are going to build urban plant equivalent to about 50 cities the size of San Francisco; plant to meet the needs of about 40 million people.

The truth is simply that we have no choice. We must plan now or we will learn at incredible cost tomorrow that we must destroy and rebuild.

Yet no amount of urban renewal, including use of the highway program as a giant urban renewal project, is going to solve the peculiar problem our cities now face. In the next 20-odd years, 44 million people will move into areas that are today the semirural fringes of the metropolises. Accordingly, our planning right now must transcend the present city limits to comprehend completely new urban development.

Here, as Owen has suggested, the highway program can be of inestimable value. For by its advance planning and its acquisition of rights of way, it can be used to mark out and to discipline the outlines of our future growth to determine what lands shall be for living, what for shopping centers, what for recreation, what for commerce and industry.

Plan or lose out

Once again, what we raise with these considerations are questions of master community planning. Yet these have seemed unattainable in a free-enterprise individualistic society where the profit system exacts its price of hideous overcrowding for the dollar values it produces. Precisely for this reason, the highway program appears now as a veritable *deus ex machina*. Conceivably, metropolitan master plans can be and should be made a mandatory condition for federal funds. At this writing amendments are under consideration to control billboards on the new highways, a most heartening development, but hardly enough by itself.

There is no question but that local city governments cannot, with their limited, obsolete and overlapping jurisdictions, begin to cope with their problems on a master plan basis without direction and some aid from the federal government. First, the existing federal authorities whose work affects urban affairs, principally housing and highway authorities, must be brought together, and not operate in their present isolation. The scope of the questions makes this imperative.

This is not to urge that we pass the buck to Washington. The federal government has cast a heavy and dead hand on the housing and redevelopment program in the past. We must recognize that the democratic governmental principle is to use the level of government closest to the community for all functions it can handle, but reserve national action for the areas beyond. We have such a situation in the metropolitan crisis.

Beginnings have been made here and there. The federal government has supplied some funds through its federal-aid highway legislation to finance transportation surveys on a total rather than piecemeal basis.

Master metropolitan planning would mean that our environmental destinies would not be determined by the tract developer and the five-percenter. It should also mean that we do not blindly avoid the intense congestion of central cities by fleeing to the fringes and creating limitless suburban scatteration.

Instead we must acquire land in advance with rational conceptions of what shall then be used for residence, for schools, for shopping, for industry, for parks, and, as Owen stresses, what the traffic generating characteristics of these land uses are.

This is not to say that future metropolitan growth should be along superficially functional lines, cold-blooded and without reference to history, without reference to the beauties and amenities achieved by city builders in other civilizations and eras than ours, as well as to our own native felicities. But there must be intelligence in our development. We must work from a rational analysis of future needs and probabilities, ranging from questions of desirable population densities, of water, housing and transportation needs, to details of financing, private, local, state and federal.

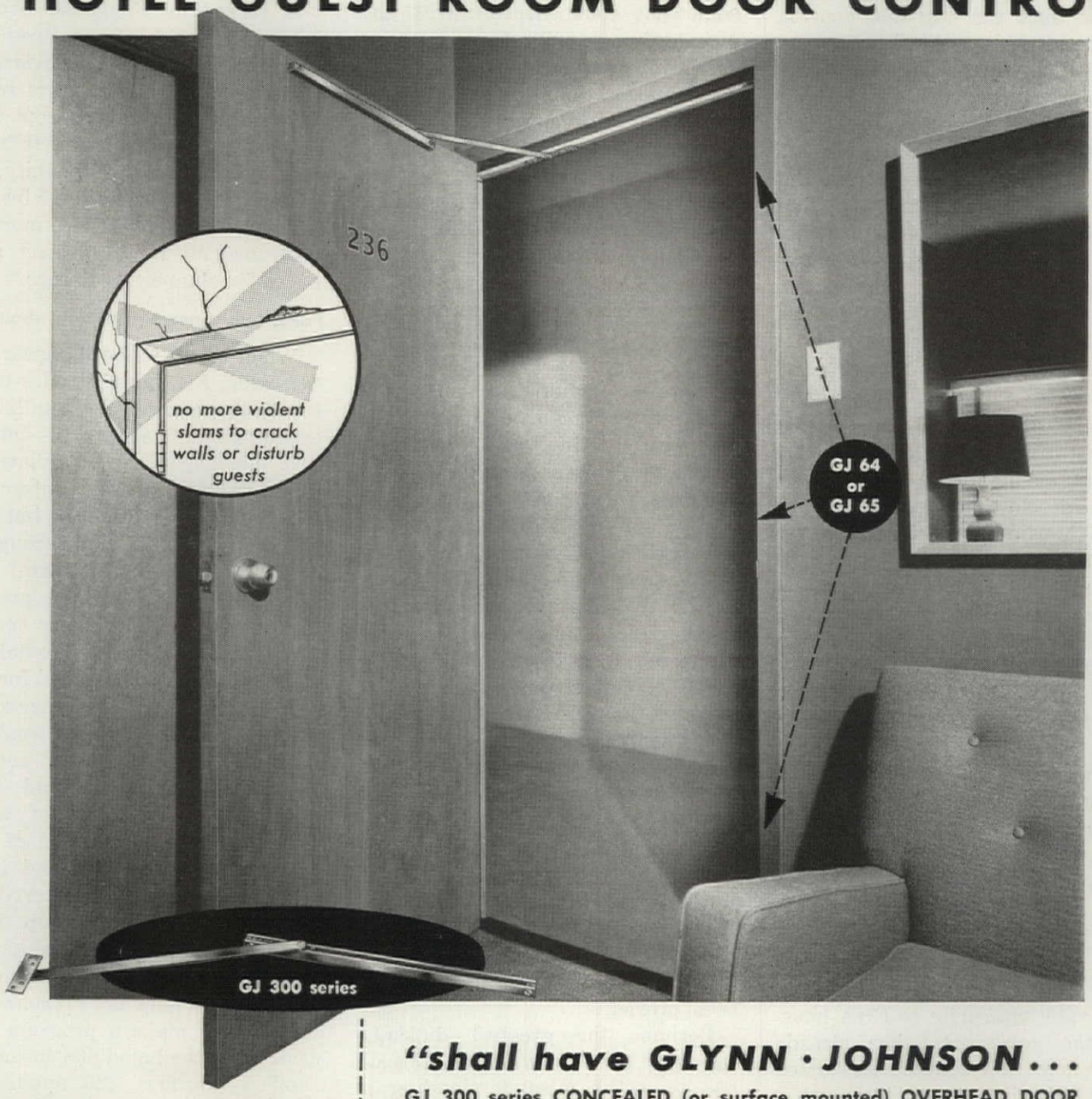
What is exasperating about the metropolitan crisis is that we have no reason to operate in ignorance. We know the specifics, both the problems and the technologies to meet them. We know that underplanned highways dump too many cars into overcongested areas; that bus lines and commuter trains are broke and that outmoded equipment provides poor service; that overcrowded schools are everywhere on double shifts; that water resources are dangerously inadequate in many areas, are available but unplanned in their use in other areas; that many suburban sewage disposal systems lag under overloads; that billboards despoil much of our land and are the heralds of advancing blight; that shifting purchasing power from central city to suburb has meant downtown decay, that governmental jurisdictional chaos is the rule in most areas; that deficient city environments produce racial strife and crime; that there is a fight in every older suburb to retain its space and its standards; that there are everywhere immense parking problems, zoning struggles, inadequate tax bases, rigid and unreal city boundaries, inadequate airports, excessive operating costs for antiquated municipal services, short-sighted realty interests, great legal problems in respect to advance acquisition of land, economic and social problems presented by new controlled-access freeways, insufficient park and recreational facilities, air pollution.

Underlying all these is the root problem of public apathy. In our democratic way of life, public concern and action are our glory and their absence our despair. So huge is the metropolitan crisis, so many-sided, that it is difficult to comprehend, and often when it is grasped, because of its complexity and immensity it depresses rather than arouses.

But today we are given a great opportunity to bring the problem into focus and to deal with it systematically and with a real chance of success. This is the significance of the highway program. Once understood in these terms it could mean a much improved America.

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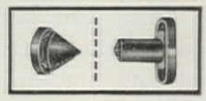
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means of coping with the postwar housing problem, which was bigger by far than the wartime housing problem. FHA was to play the part of the Pied Piper—with a songbag of inducements, such as 90%-of-value mortgages, greatly liberalized per-room mortgage allowances and stripped down charter controls. But the biggest inducement was that FHA itself would willingly make liberal valuations of land, liberal estimates of "average" construction costs rather than actual costs, and, best of all, wink at excess mortgage amounts and charters sometimes so worded that such amounts could be taken as capital gains.

Once it had been convinced by Congress and the Administration that its old-time techniques for rental housing were inadequate to meet the emergency, FHA threw itself into 608 with enthusiasm. It barnstormed the country, selling 608 to builders. The latter needed little selling. In 1947, there were 50,766 starts under 608, or just 15,000 more than Section 207 had produced in 12 years. In 1950, volume built to a peak of 143,331 units, which was 30% of all FHA-insured starts that year.

The acquisitive aspects

At the height of the 608 building boom, FORUM observed that "by harnessing the most acquisitive aspects of private enterprise to FHA housing, the government has already gotten more new apartments started under FHA in the past three years than it is likely to provide in the next two or three under public housing and at about four-fifths the cost."

Section 608 did, indeed, produce a lot of rental housing. At the time the program died in 1954, more than 465,000 units had been built, six times more than Section 207 ever produced and the largest number ever produced under any FHA rental section. (Section 608 units total almost 70% of all FHA-insured rental units built since 1934.)

Here was a rental formula that worked. Evidently, if you let a builder get his money out of a rental project quickly, allow him a return somewhat commensurate with the risk (although 608 returns in many cases were way out of line with any risk considerations) and at the same time give him a windfall (via a mortgage that more than covers the total cost of the project), you can really get some rental housing built. When the formula resulted in a congressional investigation, and a severe shakeup in FHA itself, FHA old-timers shook their heads sadly and said: "I told you so."

It was estimated that 16% of all 608 projects resulted in some windfall, and the amount of such profits was figured as high as $500 million. Faced by fire-breathing Senators—some of them the same who had pushed 608 in the first place—FHA got panicky, fired rental housing staffers right and left. The result was staff demoralization, a flood of inexperienced new employees, and worst of all, a freeze of all but a token amount of rental housing.

Since then, FHA has petulantly cast the blame for the whole 608 mess on the builders and the formula. It still maintains a blacklist of builders who received windfall profits and haven't settled up (usually by putting some percentage of the original windfall back in the rental corporation.) Builders who don't settle can't build under FHA programs even though no fraud has been proved.

Perhaps the greatest difficulty raised by the 608 "windfall" episode has been the misunderstanding it has fostered about the intrinsic nature of building investment economics. The normal credit basis of any US business is not cost of production but the credit of the borrower and the profit he can expect from his product in the market. This is what really determines the "value" of his product. The building fraternity as a whole is ready to accept production cost as a basis, and accede to cost certification, simply because it is dealing with government and must satisfy absolutely everybody it is not profiteering. But it also recognizes wryly that the principle of government-fixed rates of profit is dangerously close to being accepted in the procedure.

At the same time that FHA was shuddering through its 608 melodrama, a new rental housing section was forged by Congress. Growing out of the work of the President's Advisory Committee on Government Housing, the urban renewal section (220) brought a new concept to the federal housing program. It turned federal attention to the city, and forced FHA to do the same by writing provisions for FHA mortgage insurance on rental project mortgages for slum-cleared areas.

For urban renewal, the cold shoulder

When urban renewal appeared on the scene, FHA eyed it with understandable reserve. Section 220 had certain attractive features—90%-of-cost mortgages, special allowances for high-cost areas, 5% interest instead of 4½% as on 207—but FHA still held the whip hand through the corporate charter for rental projects. Moreover, here was a program that was infinitely more complex than 608 or any other rental program ever devised. It called for close cooperation with local agencies—whom FHA has generally treated as inferiors—and with other components of the Housing and Home Finance Agency. Most of all, it called for many hundreds of decisions to be made fast and in unchartered administrative territory.

FHA simply wasn't up to it. Staffed with inexperienced personnel, and with no rental housing tradition to fall back on, no concept of what might make a program work aside from the hated 608 formula, it shuffled the first 220 applications listlessly. Builders and developers deplored FHA's "completely defeatist attitude" on urban renewal, and wailed that "their lack of imagination has just been incredible." FHA made drudgery out of cost certification, fought constantly with the Urban Renewal Administration—a distant cousin in the HHFA setup—and generally displayed vast talents for unenthusiasm. Nor would it be hoodwinked again by Congress on a rental program. When Congress last year passed an amendment allowing a full 10% builders' profit, FHA countered with a new regulation re-

continued on p. 206

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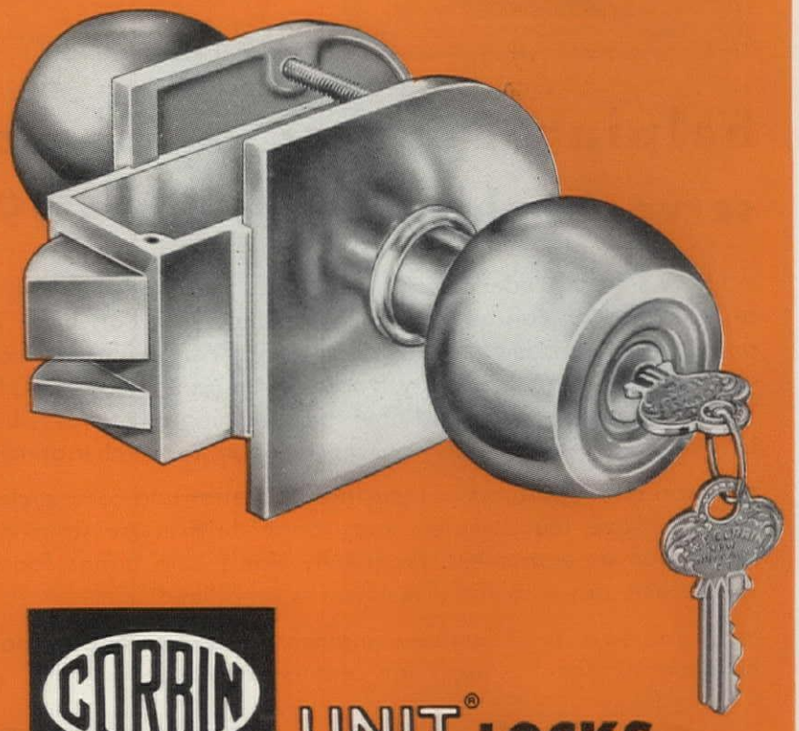
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One of the biggest roadblocks to urban renewal has been that the builders have been every bit as wary of FHA as the agency is of them. Builders found, in the 608 mess, that FHA could not be trusted to stick to its own rules. FHA was not simply a business partner in insured rental projects but also an agency of government. Court decisions emanating from 608 cases underlined this public service role which FHA itself had obscured. FHA acts, in rental project mortgage insurance, in its capacity as an agency of all the people, and as such enjoys the immunities of government. What has scared builders even more is the notion that present FHA personnel don't have to abide by past FHA policies and regulations. There is no guarantee that FHA policies governing rental housing today will still be in effect after the next election. The builder or owner is completely at the mercy of future revisions.

The upshot of FHA's post-608 attitudes was the lowest volume of rental building under its programs since 1937, when it was just getting off the ground. Only 5,000 units were started last year for all programs (excluding military housing under sec. 803), and in 1955 there were just a few more than that.

An atmosphere of receptivity

This spring, a rental housing conference was sponsored by the National Assn. of Homebuilders in Washington. For the first time since the 608 blowup, FHA officials sat elbow to elbow with builders who had been or still are on the blacklist. The troubles of rental housing—and FHA's role in adding to those troubles—were probed thoughtfully by all assembled.

FHA itself was wearing, for the first time in public, a let-bygones-be-bygones button. Deputy Commissioner Charles E. Sigety set the tone: "FHA intends to cooperate to its fullest in regenerating rental housing." There were some skeptical glances exchanged in the audience. Then Sigety wound up in earnest: "The role we can best play is to create an atmosphere of receptivity in our operations—to be useful to the private promoter."

These espousals of good faith began to sound more impressive when a leading figure in urban renewal said: "Now FHA's program offers excellent long-run profit potential—we've come 90% of the way from an unworkable program to one that is reasonable."

The conference could mark an important turn in the spotty history of rental building. The vastly stepped-up volume of rental building in New York is one indication that there may be something behind what FHA is saying. FHA itself is heartened by signs that many more smaller builders are becoming interested in urban renewal, which has for three years been pretty much the preserve of very large sponsors who have

continued on p. 208

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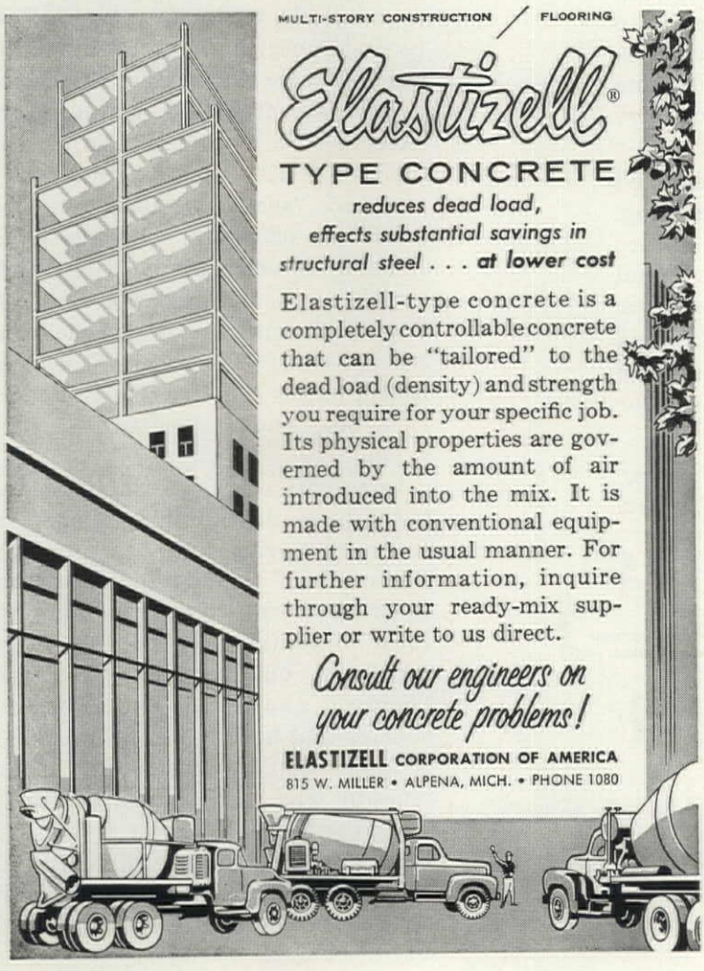
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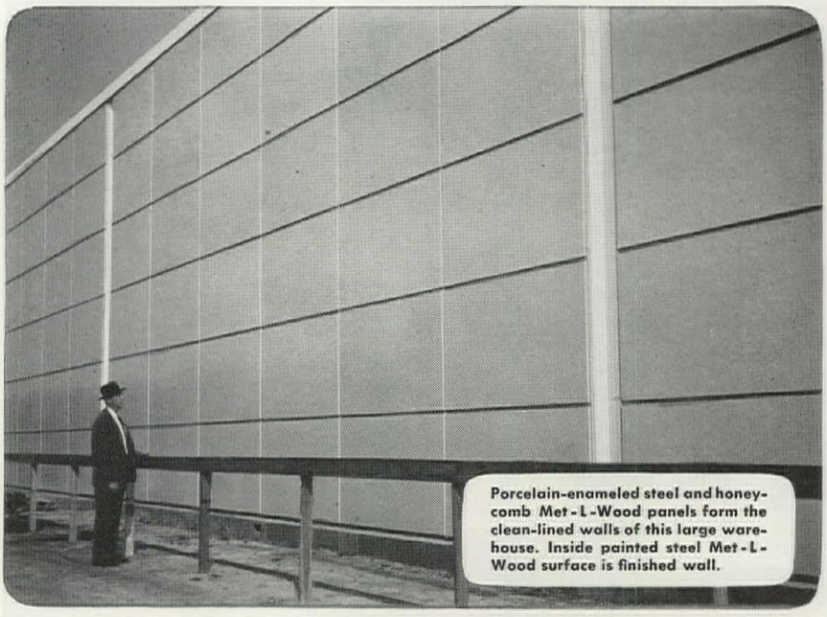
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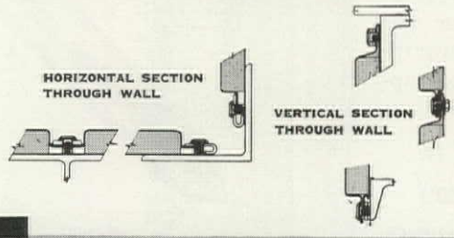
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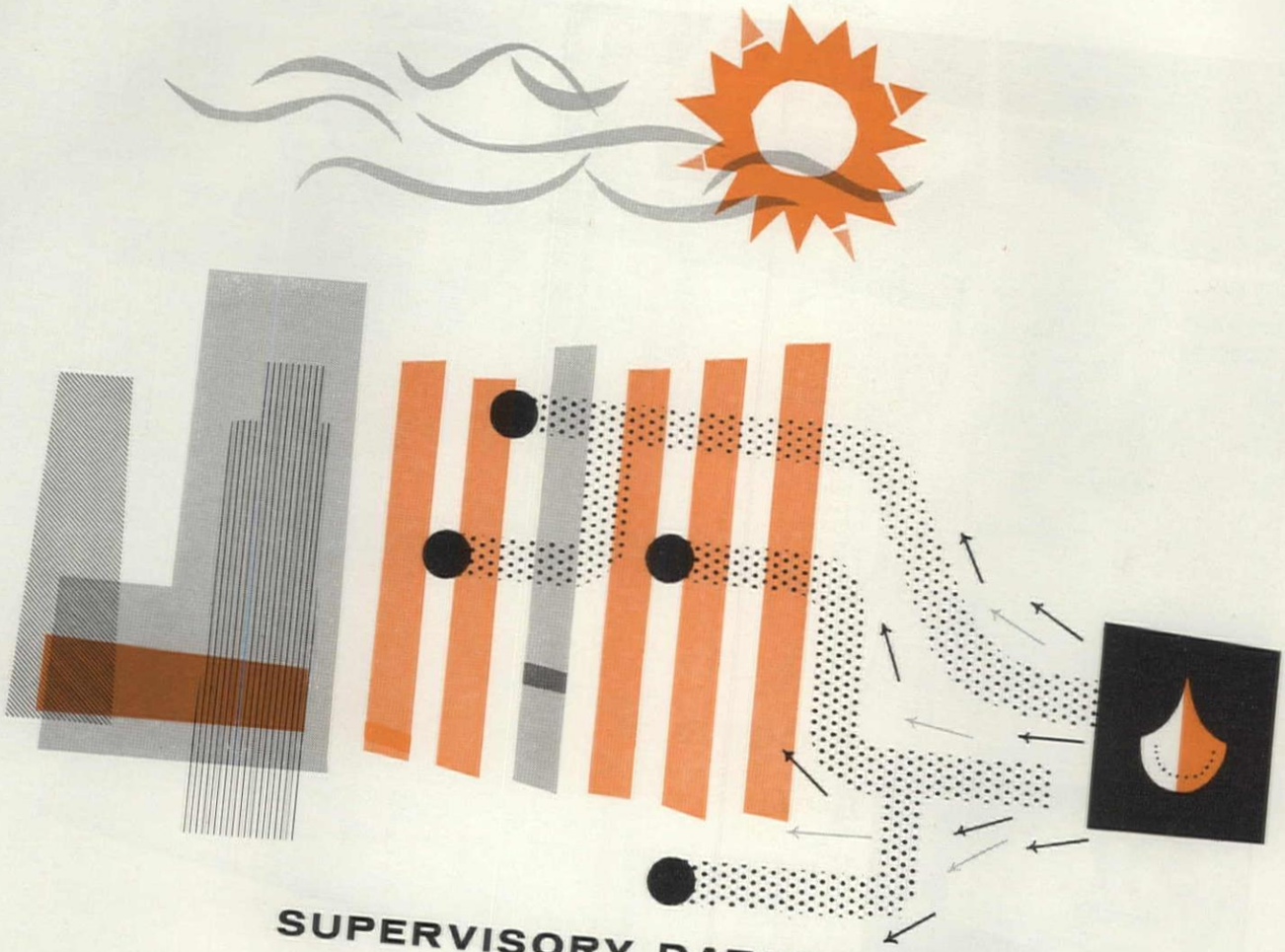
been as interested in prestige as profits.

If FHA is really going to throw its weight behind urban renewal, to take an active, constructive part in rebuilding cities, it could be a tremendous force for progress. But it will take more than high-sounding phrases. First of all, it will take a workable formula. Perhaps FHA has advanced as close to that as it can administratively. It could, if it wanted to, not require any cash equity at all, and this would undoubtedly spur the program further (3% runs to some pretty big dollars figures in multimillion dollar renewal areas). NAHB's general counsel, Herbert S. Colton, has made the suggestion that FHA abandon its charter altogether, relying instead on the simple fact that any builder obtaining mortgage insurance on a multifamily project has to abide by all FHA regulations anyway. The corporate rental charter, says Colton, is superfluous.

Social legislation plus imagination

These changes would all have to do with the technical means of effecting rental building. Behind this lies the basic purpose of FHA, and it is here that FHA's new look will have to be assayed: that is, in the light of FHA's foundation upon a piece of "social legislation." The provision of rental housing as a function of urban renewal has high social purpose. But, even as FHA Deputy Commissioner Sigety himself has said: "The creation of legislation, unless it is imaginatively carried out, can't effectuate a program."

Imagination is desperately needed not only in the administration of a housing program, but in its creation. The needs of the city today are far different from what they were in 1934, and cannot be met by mere carpentry on existing programs. Congress and FHA must jettison policies that are proven failures and attitudes that are restricting urban renewal and urban health. Both Congress and FHA must forget the checkered past of federally insured urban housing and put their imagination into the future of the central city.



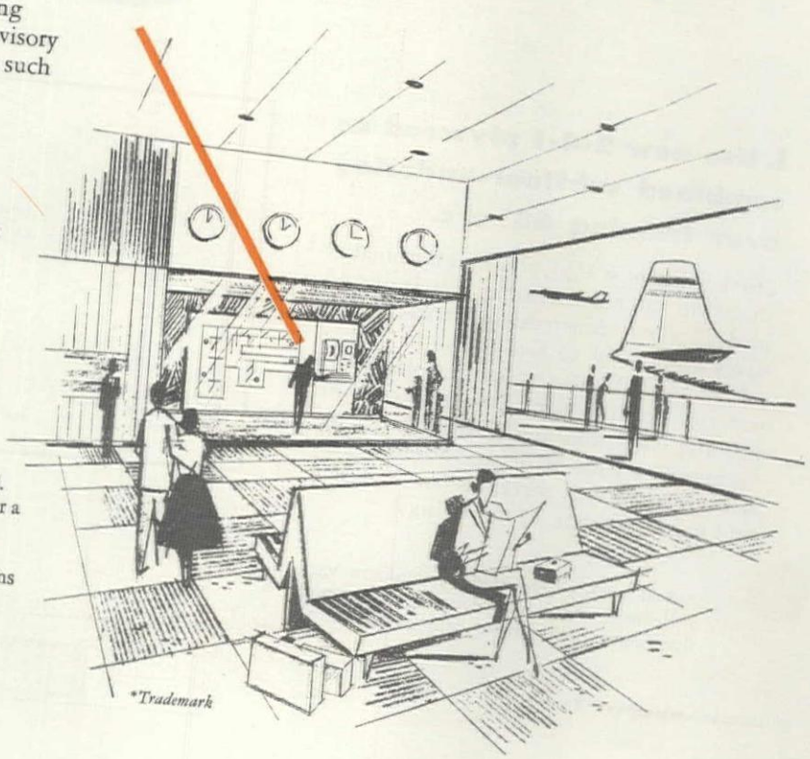
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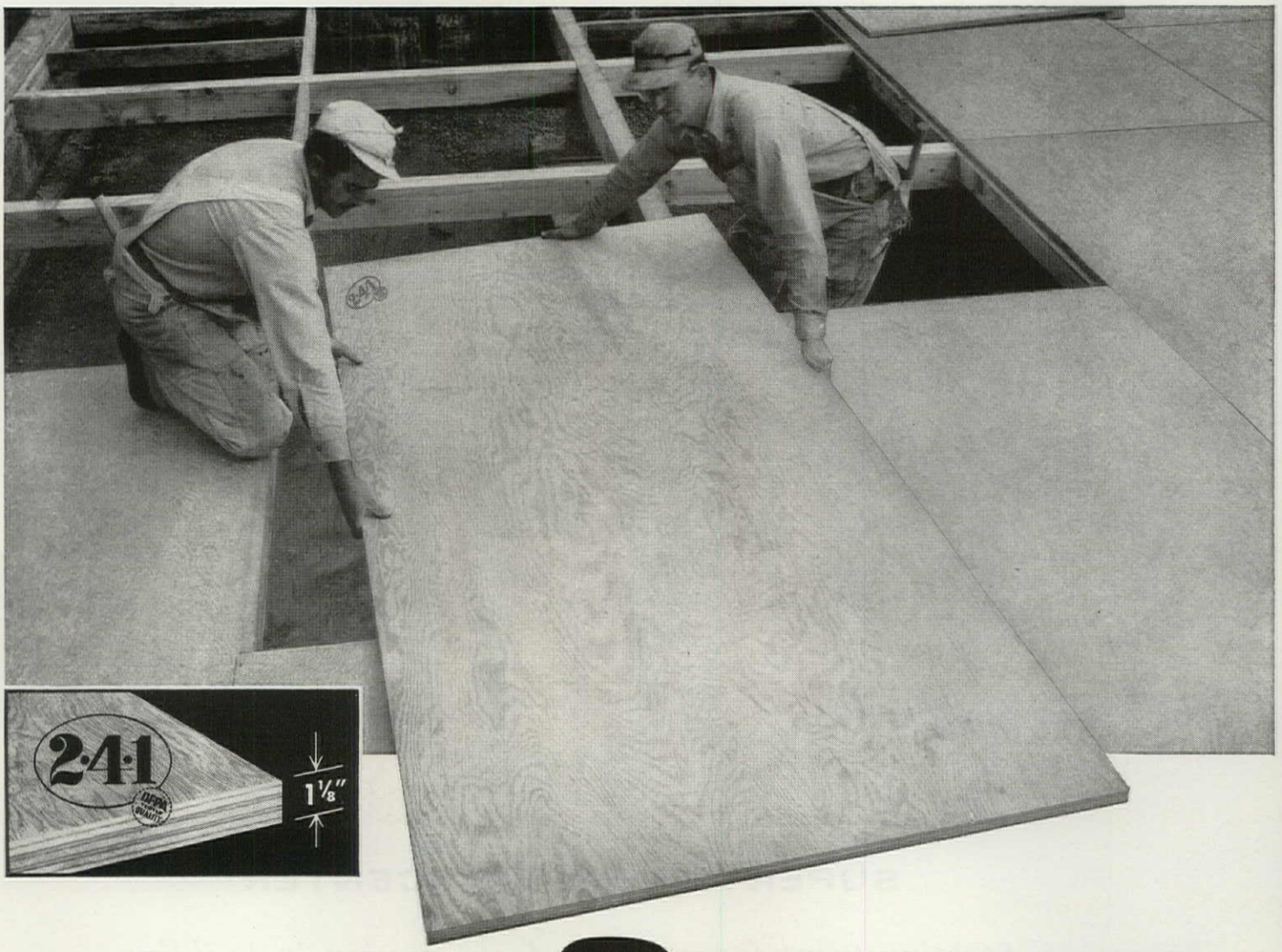
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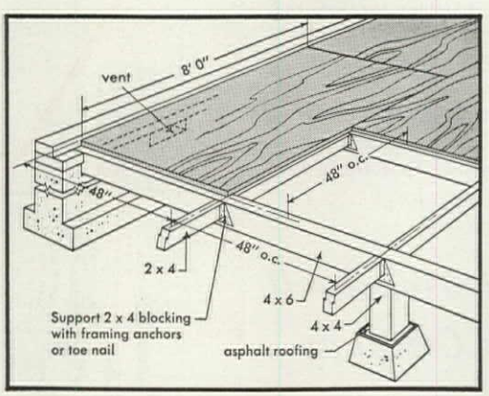


3 ways to cut

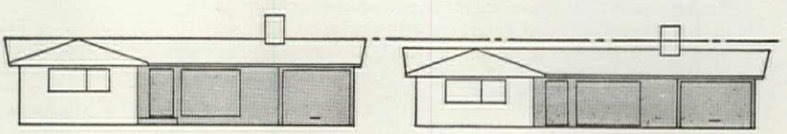
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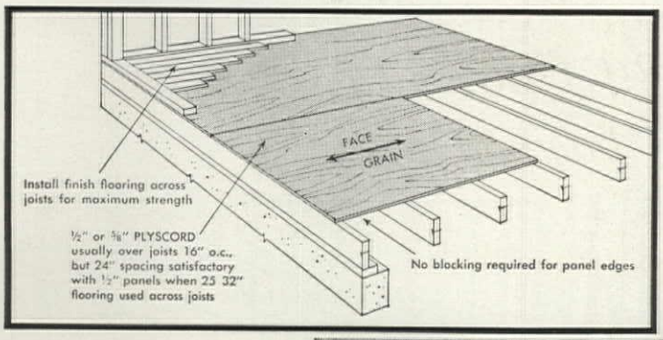
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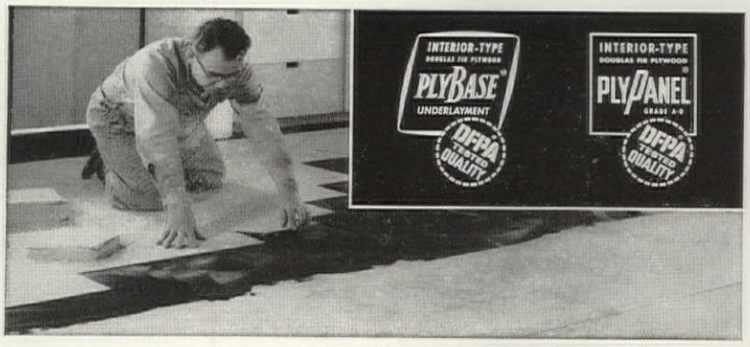
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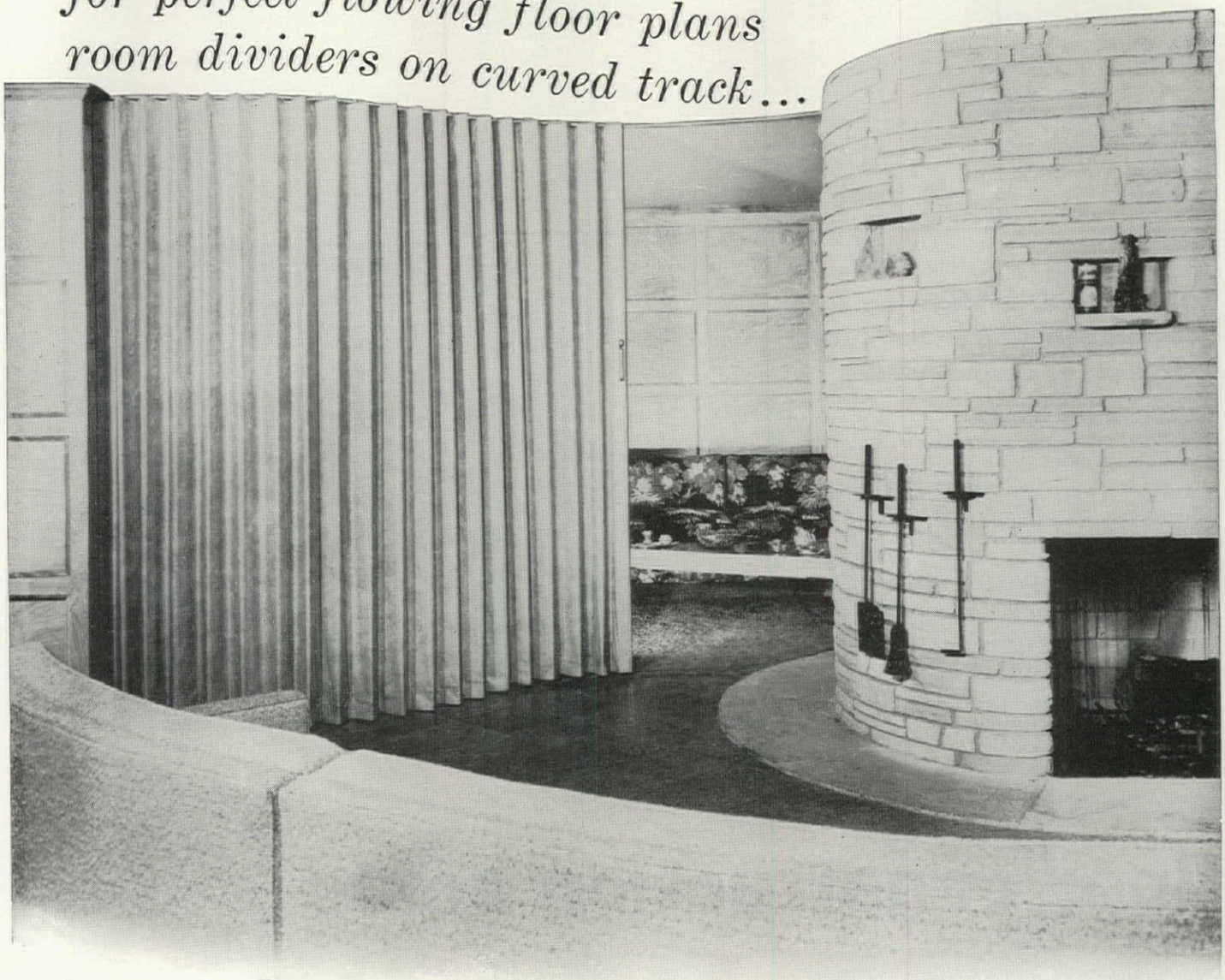


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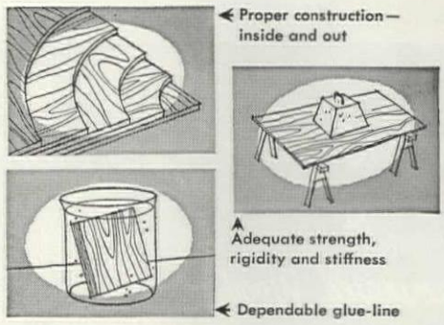
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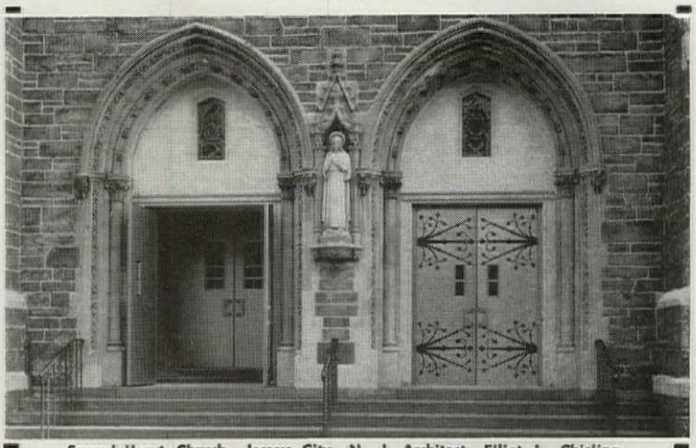
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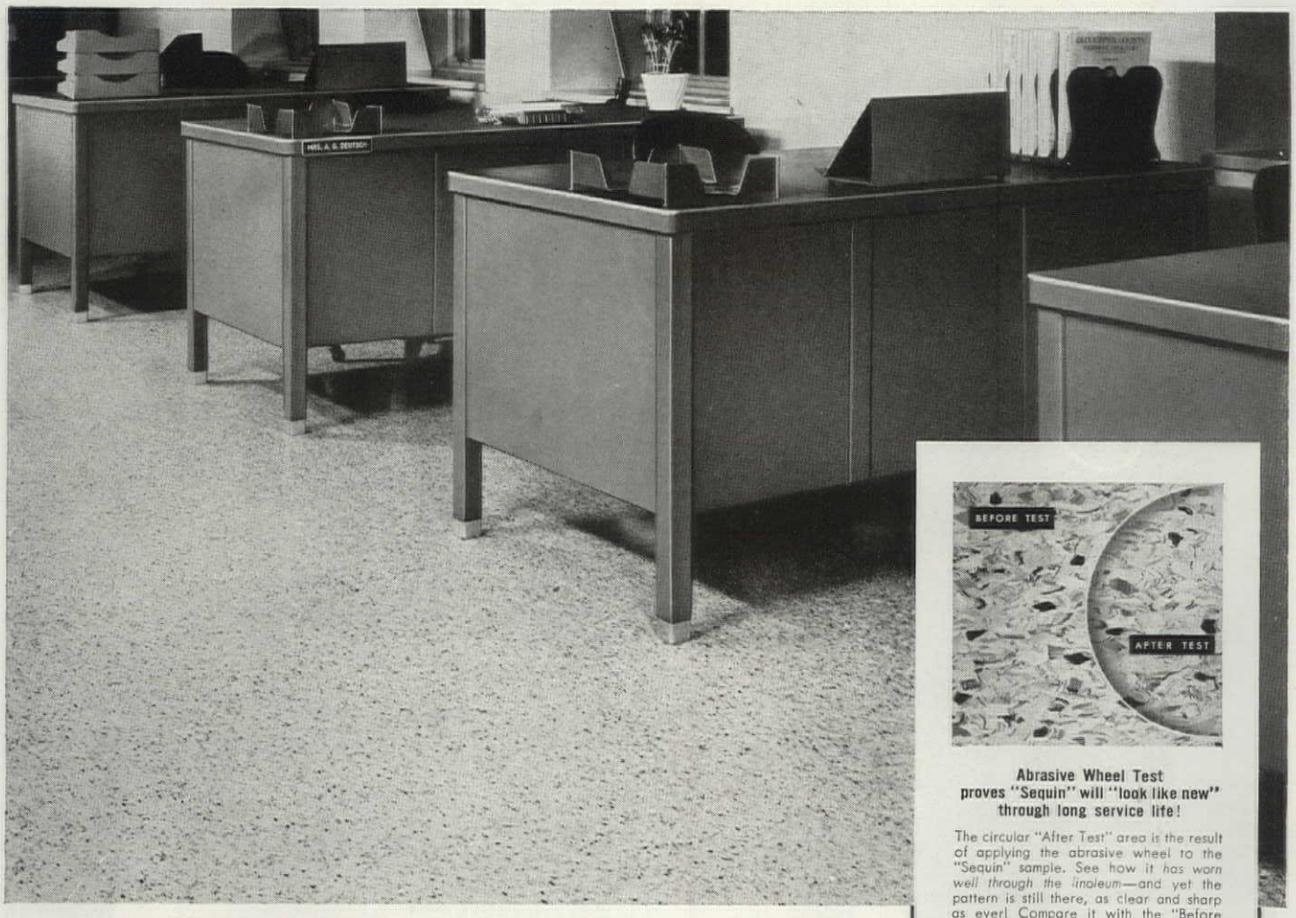
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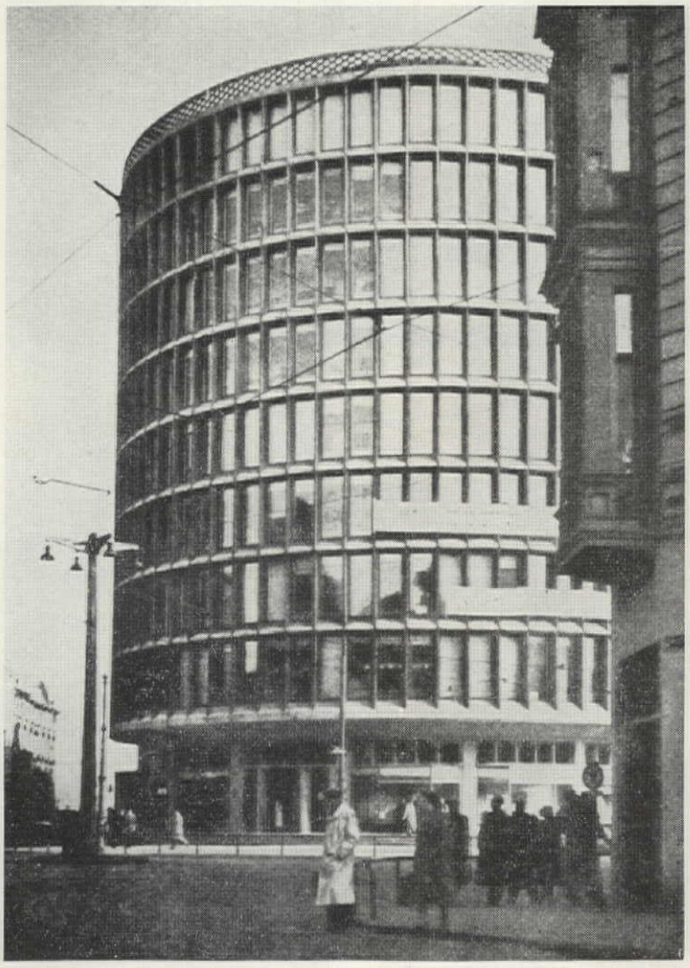
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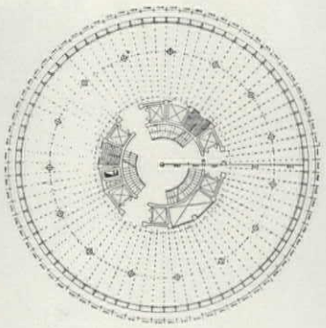
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POZNAN UPRISING

Some months before last year's Poznan riots, another, quieter uprising took place in that very city: a non-Stalinist, non-classical department store was erected on a busy, downtown corner. Designed by former partisan Marek Leykam, it turns a full circle, is constructed entirely of prefabricated, concrete elements. Atop the cylinder is a fashionable restaurant, beneath are individual shops. Architecture, one of Leykam's colleagues remarked recently, was at the barricades.

EDMUND KUPIECKI



WARSAW REVOLUTION

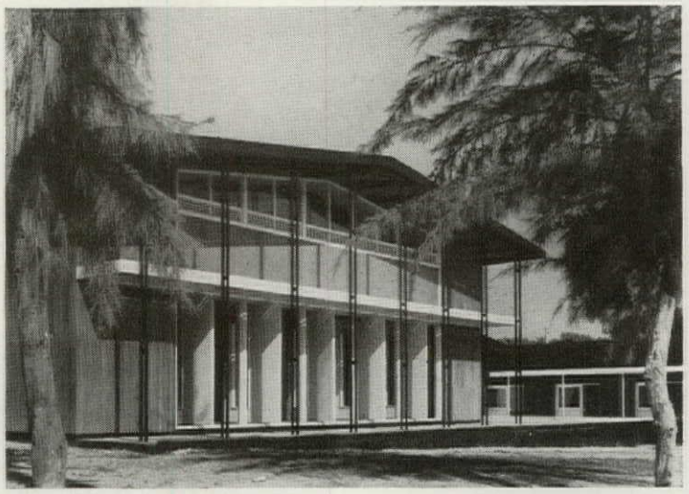
Meanwhile, in Warsaw, an equally revolutionary structure was being raised, a stadium which sets a glass-wrapped press box atop an unusual bowl (right). The stadium slopes more steeply at the ends than along the sides, bringing the goal-post ticket holders nearer the middle of things. The principle and the design are the work of Architect Leykam, collaborating with Chief Architect Jerzy Hryniewiecki and C. Rajewski. Revolutionary though it may be, the stadium doesn't succeed in shucking a heaviness in details that seems to be the perennial characteristic of iron-curtain architecture.

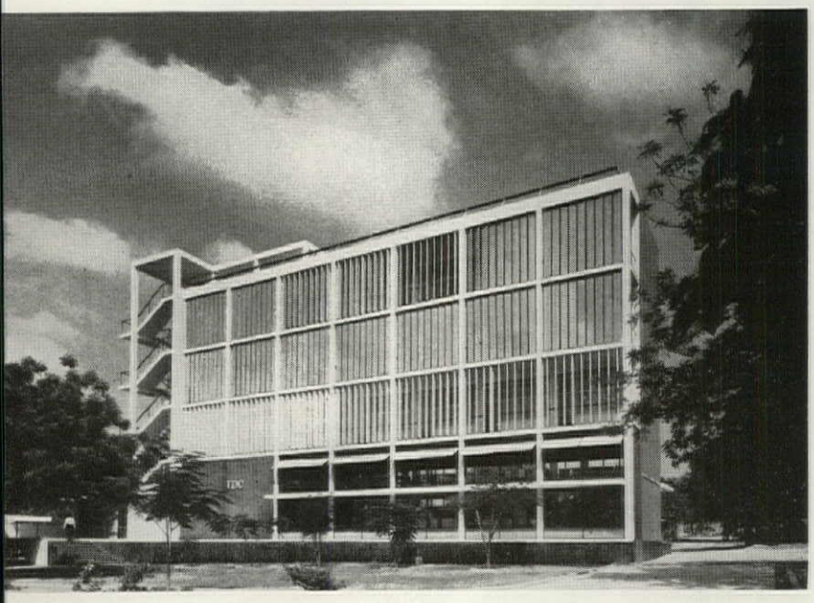


PHOTOS: PETER PITT

GHANA MONUMENTS

There are no monuments to departed "British Imperialism" in Ghana, nothing but a seedling collection of excellent, highly functional buildings. Among the best is the unconventional row housing (above), designed for Kumasi College of Technology by James Cubitt & Partners of London.







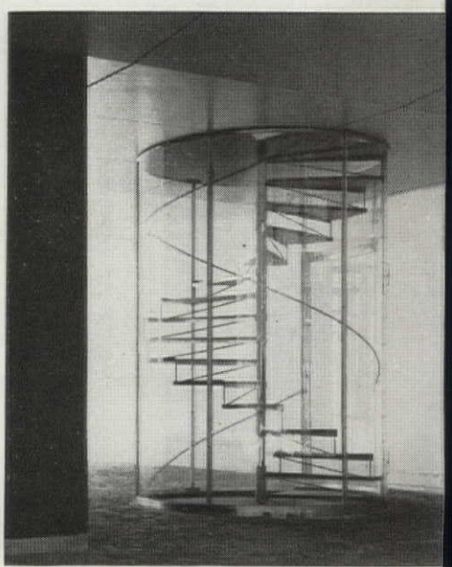
BRITISH TASTE

Other admirable examples of unmonumental British taste in Ghana are Architect Cubitt's finely detailed school at Secondai (lower right), his crisp Memorial Hall at Accra's new University College of Ghana (above, right), and his Industrial Development Corp. building (above). The IDC offices are housed in a reinforced concrete frame; the southern face is fitted out with manually operative, vertically pivoted louvers. From all this well-planned understatement may come a loyalty to a departed soverign unique in the annals of empire.



DANISH PINSTRIPES

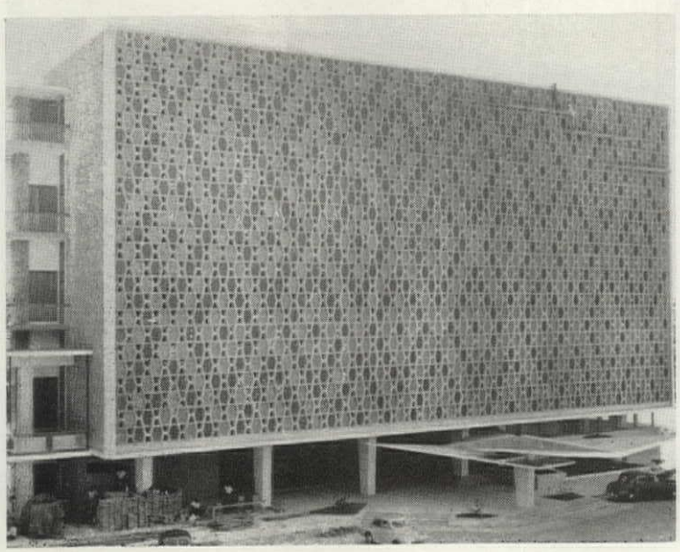
Architect Arne Jacobsen, when given the assignment of squeezing new offices for A. Jespersen & Son into a tight spot in Copenhagen, designed an aluminum and glass building which proved flexible enough for the site, distinguished enough in its natty pinstripedness for its business mission. One of the pleasures of the structure: watching secretaries bustle up and down the bottle-enclosed staircase (right).

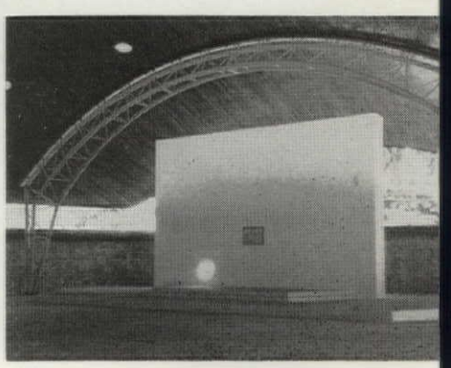


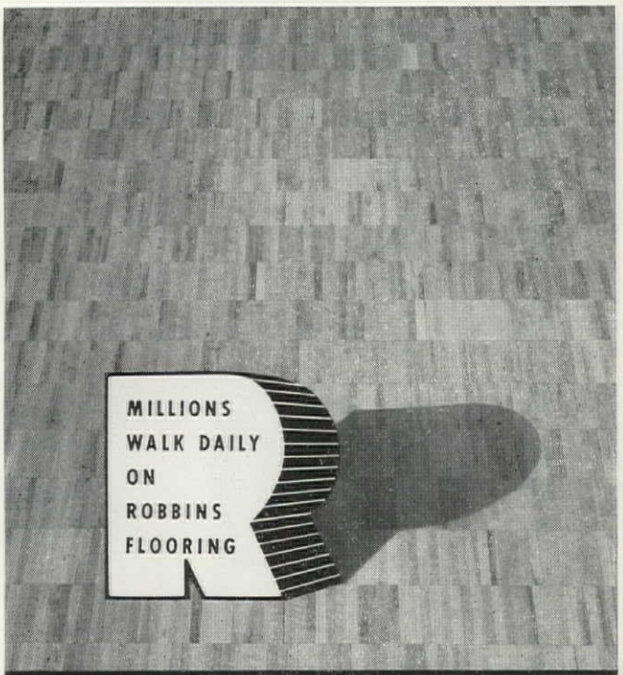
BURMA EXPERIMENTS

Condemned by politics, the inventive shapes that recently sprang from the grounds of the Engineering College at the University of Rangoon may be the last of their ilk. They were planned by Britain's Raglan Squires & Partners to be architectural display cases for indigenous materials and skills: the canopy of the assembly hall (right) is constructed of laminated teak (detail, lower right); the pattern of the library's glass-in-concrete grille (below) is based on the folk weaving of native tribesmen. But such Western-directed experiments with local form and color are discouraged now that Burma's economics and politics call for more careful fence-sitting; tortoise-shaped halls are out.









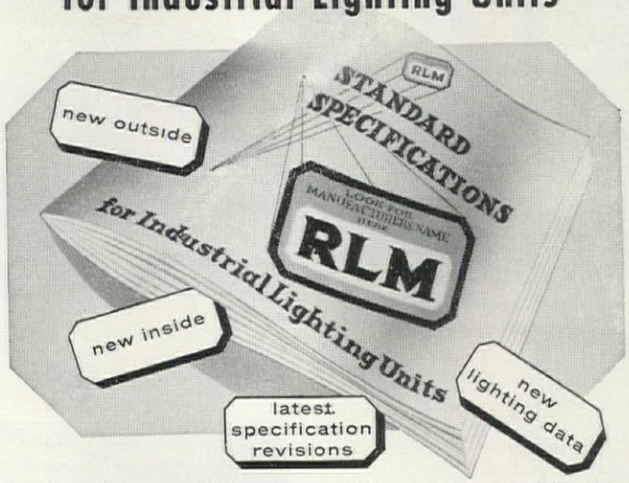
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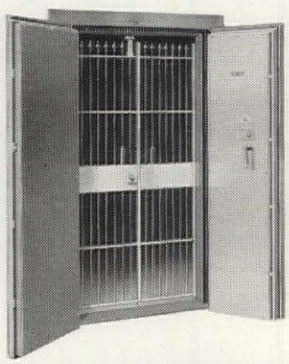
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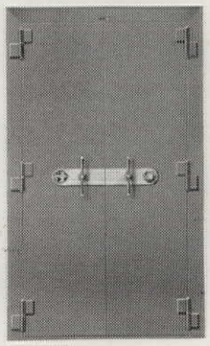
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